2023
ENGLISH

Full marks : 80   Time : 3 hours

General instructions:
i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii)   The question paper consists of 14 questions. All questions are compulsory.
iii) Marks are indicated against each question.
iv)   Internal choice has been provided in some questions.
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

SECTION-A (Literature)

1. Answer **any five** of the following questions: **5x2=10**

   (a)   Jean-Victor developed an admiration for Hardimont. Why?
   (b)   Which experiences transformed the life of Ellen Johnson Sirleaf?
   (c)   Describe Susan's experience of learning to drive the motorbike.
   (d)   What punishment was pronounced by Red Chief for Bill and Sam?
   (e)   What is neuro- leadership?
   (f)   What type of leaders does our modern complex society call for?

2. Answer **any one** of the following questions in about 150 words: **5**

   (a)   According to Sirleaf, what are the challenges women still face in many parts of the world?
   (b)   Write the character sketch of Red Chief.
   (c)   'A Piece of Bread' is the story of the bond between a duke and a soldier. Justify the title.

3. Read the lines from the poem and answer **any two** questions that follow:

   I.   *Let me not to the marriage of true minds*
         Admit impediments. Love is not love
         Which alters when it alteration finds,

   (a) What is meant by the 'marriage of true minds'?   **1**
   (b) Why is the poet not ready to admit any kind of hindrance in love?   **1**
   (c) When is love not love?   **1**

   II.   *I am not yet born; provide me*
         With water to dandle me, grass to grow for me, trees to talk to me, sky to
         sing to me, birds and a white light in the back of my mind to guide me.

(a)   What does the unborn child want?   **1**
(b)   Is the speaker a lover of nature?   **1**
(c)   What does the poet refer to as' a white light'?   **1**

III. *Ah! As the heart grows older*
      It will come to such sights colder
      By and by, nor spare a sigh
      Though worlds of wanwood leafmeal lie;
      And yet you will weep and know why.
      Now no matter, child, the name
      Sorrow's springs are the same.

(a)   What is the narrator assuring the child?   **1**
(b)   Why will the child be 'colder' and 'not spare a sigh'?   **1**
(c)   What according to the narrator is sorrow's springs?   **1**

iv.   *Plunged in the battery- smoke*
      Right thro' the line they broke;
      Cossack and Russian
      Reel'd from the sabre-stroke
      Shatter'd and sunder'd.
      Then they rode back, but not
      Not the six hundred.

(a)   What does 'battery- smoke' refer to here?   **1**
(b)   Who rode back and why not the whole Brigade of the six hundred? **1**
(c)   Identify the poetic device used in lines 4 and 5.   **1**

4.   What message does the poem 'Prayer before Birth' convey to the readers?   **4**
                                    Or
     How has the poet described love with reference to the concept of time in the
     poem, 'Let Me Not to the Marriage of True Minds'?

5.   *I came to bury Caesar, not to praise him.*
         The evil that men do lives after them,
         The good is oft interred with the bones;
         So let it be with Caesar. The noble Brutus.
         Hath told you Caesar was ambitious;

(a)   Who is the speaker?   **1**
(b)   Who is Brutus and why does the speaker call him noble?   **2**
(c)   Does the speaker really believe that Caesar was ambitious?
      Give evidence.   **2**
                                    Or

Antony uses Caesar's will to turn his audience completely in his favour and against the injustice of the assassination. Write a short note on this incident.   **5**

6. Answer **any two** of the following questions in about 150 words: **5x2=10**

   (a) Describe in detail how the ghost speaks of the Garden of Death and how he explains the verse on the library window.
   (b) Write a note on the humour and satirical elements in 'The Canterville Ghost'.
   (c) Give a detailed character sketch of Sir Simon the ghost.

Section-B (Reading)

7. Too many parents these days can't say no. As a result, they find themselves raising 'children' who respond greedily to the advertisements aimed right at them. Even getting what they want doesn't satisfy some kids; they only want more. Now, a growing number of psychologists, educators and parents think it's time to stop the madness and start teaching kids about what's really important: values like hard work, contentment, honesty and compassion. The struggle to set limits has never been tougher—and the stakes have never been higher. One recent study of adults who were over indulged as children, paints a discouraging picture of their future: when given too much too soon, they grow up to be adults who have difficulty coping with life's disappointments. They also have distorted sense of entitlement that gets in the way of success in the work place and in relationships.

   Psychologists say that parents, who overindulge their kids, set them up to be more vulnerable to future anxiety and depression. Today's parents themselves raised on values or thrift and self-sacrifice, grew up in a culture where 'no' was a household word. Today's kids want much more, partly because there is so much more to want. The oldest members of this generation were born in the late 1980s, just as PCs and video games were making their assault on the family room. They think of MP3 players and flat screen TV as essential utilities, and they have developed strategies to get them .One survey of teenagers found that when they crave for something new, most expect to ask nine times before their parents give in. By every measure, parents are shelling out record amounts. In the heat of this buying blitz, even parents who desperately need to say no find themselves reaching out for their credit cards.

   Today's parents aren't equipped to deal with the problem. Many of them, raised in the 1960s and 70s, swore they'd act differently from their parents and have closer relationships with their own children. Many even wear the same designer clothes as their kids and listen to the same music. And they work more hours; at the end of a long week, it's tempting to buy peace with 'yes' and not mar precious family time with conflict. Anxiety about the future is another factor. How do well intentioned parents say no to all the sports gear and arts and language lessons they believe will help their kids thrive in an increasingly

competitive world? Experts agree: too much love won't spoil a child. Too few limits will.

What parents need to find, is a balance between the advantages of an affluent society and the critical life lessons that come from waiting, saving and working hard to achieve goals. That search for balance has to start early. Children need limits on their behaviour because they feel better and more secure when they live within a secured structure.

Older children learn self-control by watching how others, especially parents act. Learning how to overcome challenges is essential to becoming a successful adult. Few parents ask kids to do chores. They think their kids are already overburdened by social and academic pressures. Every individual can be of service to others, and life has meaning beyond one's own immediate happiness. That means parents eager to teach values have to take a long, hard look at their own.

(Based on your reading of the passage, answer the following questions)

I.   (a)   What values do parents and teachers want children to learn?   **1**
     (b)   What are the results of giving the children too much too soon?   **1**
     (c)   Why do today's children want more?   **2**
     (d)   What is the balance which the parents need to have in today's world?
           What is the necessity to set limits for children?   **1+1=2**

II. Give the antonyms of the words from the passage: **2x1=2**
     (a)   Sanity
     (b)   Impoverished

8.   Read the following passage and prepare notes on the contents of the passage and summarize in about 80 words using the notes that you have made: **4+3=7**

Although stupidity is commonly defined as a lack of normal intelligence, stupid behaviour is not the behaviour of a person lacking in intelligence but the behaviour of a person not showing good judgement or sense. In fact, stupidity comes from the Latin word that means 'senseless'. Therefore, stupidity can be defined as the behaviour of a person of normal intelligence who acts in a particular situation as if he or she isn't very bright. Stupidity exists at three levels of seriousness.

First is the simple, relatively harmless level. Behaviour at this level is often amusing. It is humorous when someone places the food from a fast food restaurant on the roof of the car while unlocking the door and drives away with the food still on the roof. We call this absent-mindedness .The person's good sense or intelligence was temporarily absent. At this level, other than causing inconvenience or embarrassment, no one is hurt by stupid behaviour. The next type – serious stupidity- is more dangerous. Practical jokes such as putting sugar in the salt shakers are at this level. The intention is humorous, but there is a chance of harm. Irresponsible advice given to others is also serious stupidity. An

example is a person who plays psychiatrist on the basis of an introductory psychology course or doing a TV program on psychiatry. The intention may be to help, but if the victim really needs psychiatric help, an amateur will only worsen the situation.

Even worse is the third kind of stupidity. Kind people, who would never injure another living being, stupidly throw away a box of six-week old kittens along a country road. Lacking the heart to kill the poor things, they sentence them to almost certain death from wild animals, infections, exposure or the wheels of a passing vehicle. Yet, they are able to tell themselves that 'they will find nice homes 'or' animals can get along in the wild'. Another kind of this stupidity is the successful local business man who tries to have as many office affairs as he can get away with. He risks the loss of his business and home. He fails to see that what he is doing is wrong. His is the true moral stupidity of a person not willing to think about the results of his actions or to take responsibility for them. The common defense of a person guilty of stupidity is –'But I didn't think….' This, however, is not proper excuse, especially when serious or harmful stupidity is involved.

SECTION-C (WRITING)

9. You are the Manager of Authentic Pick, a family clothing showroom, Dimapur. Draft a suitable advertisement to be published in the local dailies, offering 50% discount on all garments.

Or   **4**

Read the following paragraph and express your opinion in not more than 50 words on whether you agree or disagree with the ideas mentioned in it.

Social media plays a very important role in today's life. It enables people to discover and learn new information, share ideas, interact with new people and organizations and so on. It has changed the way people live their life and made communication much easier. On the other hand, it creates many problem involving mental health, emotional insecurities and waste of time. It acts as a platform for drama, bullying, trolling, harassment and much more.

10. You are John, the secretary of the students union of Riverdale High, Kiphire. Of late discipline is going down in your school, therefore the principal has asked you to give a speech on the relevance of 'Discipline shapes the future of a student', to be delivered in the morning assembly. You wish to reiterate the importance of Discipline in one's life.

Write the speech that you would make on such an occasion in about 150-200 words.

Or   **5**

You are Vivi/Charlie, a special correspondent for 'The Herald'. Write a newspaper report in about 150 words on 'Mokokchung Music Club wins First in India's Got Talent'.

11. You are Leno/Noke, the Secretary of the Students' Forum of Shepherd School, Wokha. Your school has planned an excursion to Delhi during summer vacation. Write a letter to the General Manager, Northern Railways, asking for reservation of a bogie for 60 students from Dimapur to Delhi and back, supplying all the necessary information.   **6**

SECTION-D (Grammar)

12.   Rewrite the following as directed: **3x1=3**

   (a)   The boy speaks the truth. (Present Continuous Tense)
   (b)   I _____ (work) on this project for four months by May.
          (Future Perfect Continuous Tense)
   (c)   Aaron was helping mother with the cooking. His friends called.
          (Combine the sentences using Past Perfect Continuous Tense)

13.   Use the following idioms and phrases to make sentences of your own: **3x1=3**

   (a)   In the nick of time
   (b)   Wolf in sheep's clothing
   (c)   Like chalk and cheese

14. Fill in the blanks with correct modals: **4x1=4**

   (a)   One____ keep one's promise.
   (b)   I _____ rather read a novel than watch that stupid movie.
   (c)   Tom_____ attend the service in the evening.
   (d)   Till last year, I _____ read without glasses.

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2023
GEOGRAPHY

Total marks: 70   Time: 3 hours

General instructions:
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory. Marks are indicated against each question.*
iii) *The question paper consists of 27 questions divided into Section A and Section B.*
iv) *Internal choice has been provided in some questions.*
v) *Alternate question for the visually impaired students are provided in question 14 and 27. **Only the visually impaired students have to attempt the alternate question**.*

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

Section –A

1. Define human geography.   **1**

2. What is informal sector of services?   **1**

3. What is free trade?   **1**

4. How is systematic geography different from regional geography?   **2**

5. Write any two important aspects of human development.   **2**

6. What is remote sensing? Mention one satellite used for remote sensing. **1+1=2**

7. What are border roads? Mention its importance.   **1+1=2**

8. **a.** Distinguish between push and pull factors of migration with examples.
                                   Or   **3**
    b. Explain briefly the three components of population change.

9. Write any three characteristic features of pastoral nomadism.   **3**

10. **a.** Define the following terms: **1+1+1=3**
    (i)   Basic industries
    (ii) Agro-based industries
    (iii) Private sector industries
                                   Or
    b. Distinguish between rural marketing centres and urban marketing centres.   (3)

11. **a.** Write three chief characteristics of air transport.

    Or   **3**

    b. Differentiate between contiguous zone and exclusive economic zone of ocean rights.

12. **a.** Write any five chief characteristic features of plantation agriculture.   **5**

    Or

    b. Where is commercial grain cultivation practiced? Mention four chief characteristics.   (1+4=5)

13. **a.** Write any five advantages of ocean routes.

    Or   **5**

    b. Explain the five types of ports on the basis of specialised functions.

14. On the given world map, four areas are numbered. Choose any two and match with the names given below   **1+1=2**
    (a) Panama canal
    (b) Mongolia

For Visually Impaired Students in lieu of Q.no.14
(a) Between which continents is the Panama Canal located?
(b) In which continent is Mongolia located?

Section –B

15.   What are administrative towns?   **1**

16.   Define water pollution.   **1**

17.   What is meant by population composition?   **2**

18.   What is meant by watershed management?   **2**

19.   What is solar energy? Mention one process for tapping solar energy.   **1+1=2**

20.   Name any two major sea ports of India.   **2**

21.   Define the three groups of workers viz., main workers, marginal workers
      and non-workers.   **3**
      .

22.   **a.** Differentiate between rural settlement and urban settlement.
                                   Or   **3**
      b. Write three conservative methods of petroleum.

23.   **a.** Explain the cropping seasons in India.
                                   Or   **3**
      b. Mention three strategies adopted by the Government immediately after
            independence to increase the production of food grains in India.

24.   **a**. Write any three preventive and control measures for land pollution.
                                   Or   **3**
      b. Mention any three parameters under which a person is counted as poor in
            India.

25.   **a.** Write five objectives of rainwater harvesting.
                                   Or   **5**
      b. Write five factors influencing the development of hydroelectric power of
            India.

26.   **a.** Briefly explain the five categories of roads of India.   **5**
                                   Or
      b. Why is computer called 'one of the greatest inventions of man in the
            present-day world'? Mention any three main functions performed by
            computers.   (2+3=5)

27. On the given map of India, five areas are numbered. Choose any three and
    match with the names given below.   **1+1+1=3**
    (a) Digboi oil field
    (b) Open Sewer of Delhi
    (c) Cottonopolis of India

For Visually Impaired Students in lieu of Q.no.27
(a) Where is Digboi oil field located?
(b) Which river is called the 'Open Sewer of Delhi'?
(c) Which city is called the Cottonopolis of India?

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2023
ENTREPRENEURSHIP

Full marks : 70   Time : 3 hours

General instructions:
i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii)   The question paper consists of 27 questions.
iii) Marks are indicated against each question.
iv)   General choice has been provided in some questions.
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. What is meant by environmental scanning?   **1**

2. Define innovation.   **1**

3. What is meant by excise duty?   **1**

4. What is meant by product mix?   **1**

5. What is a tagline?   **1**

6. Write the abbreviation of EBITDA.   **1**

7. State any three common idea fields.   **3**

8. Write any three features of personal selling.   **3**

9. Discuss any three importance of negotiation.   **3**

10. Write any three objectives of budgeting.   **3**

11. Write any three benefits of inventory control.   **3**

    Answer any five (5) from the following questions: **5x5=25**

12. Explain the five main sources of emerging ideas.

13. Explain any five macro environmental factors.

14. Write the five sources of collecting information from environment.

15. Write five steps how creativity can be designed into enterprise.

16. Write any five legal formalities involved in sole proprietorship.

17. State five basic contents of operational plan.

18. State any five features of franchise.

19. Write any three advantages and any two limitations of horizontal integration.

(3+2=5)

20. Write five differences between primary market and secondary market.

21. State the five functions of Industrial Development Bank of India (IDBI).

Answer any three (3) from the following questions: 3x8=24

22. Explain the eight features of Joint Stock Company.

23. Define financial plan. Explain seven major component of financial plan. (1+7=8)

24. Distinguish between advertising and personal selling.

25. Explain any eight causes of business failure.

26. Explain any eight importance of cash flow statement.

27. Explain eight classification of budget as per functional budgets.

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2023
MUSIC

Total marks : 70   Time : 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii)   *The question paper consists of 34 questions.*
iii)   *Marks are indicated against each question.*
iv)   *Internal choice is given in questions carrying 4 and 6 marks.*
N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

1.   Write the middle C on tenor clef and alto clef.   **1**

2.   Draw a demisemiquaver note and rest.   **1**

3.   How is $^6/_4$ different from $^3/_2$ time signature ?   **1**

4.   Why is it good to use pentatonic scales to improvise music ?   **1**

5.   Write the key signature for B♭ minor and G♯ minor on the bass clef. **1**

6.   Write the enharmonic equivalents of G double flat and A double sharp. **1**

7.   Give an example each for upper and lower auxiliary note on C . **1**

8.   Does the imperfect cadence end on a tonic or the dominant chord ? **1**

9.   What will diminished 5th and major 7th be inverted to ?   **1**

10.   Define modulation .   **1**

11.   What is the difference between senza pedal and una corda ?   **1**

12.   Give the other two names of plain-song .   **1**

13.   Rewrite the tune using tenor clef, so that they sound at the same pitch.   **2**

14.   Add bar lines to agree with the time signature :   **2**

       a)

       b)

15.   Write a tune for violin using the first five degrees of G harmonic minor
       scale to the given rhythm. Use a key signature and finish on the dominant.   **2**

16.   Write the correct inversions to the given intervals and name them.   **2**

17.   Write a one-octave arpeggio in the rhythm given below using the key
       signature on the bass clef in A♭ major, descending and ascending.   **2**

18.   Work out the keys of the following pieces :   **2**

       a)

       b)

19.   Add accented passing notes below the asterisks .   **2**

20.   Draw a perfect cadence using crotchets in the key of A major .   **2**

21.   Name two composers from the baroque period .   **2**

22.   Label the following :   **2**

a)

b)

   Answer any **five** from questions 23-29.

23.   Using semiquaver triplets, write a broken chord using the appropriate
       triad. Use pattern of 3 notes each time. Finish no more than two leger
       lines above or below the stave. Use key signature.   **4**
       a)   Chord IV in G major, ascending on tenor clef.
       b)   Chord ii in F major, descending on bass clef.

24.   Continue the following rhythms to fit the following phrases .   **4**
       " Draw near my friends and neighbours,
       Good news to you I'll bring.
       The fame of admiral Nelson
       From shore to shore to sing."

           Draw   near my friends and

25. Construct these scales using minim notes. **4**
    a) C harmonic minor scale on the treble clef, ascending and descending. Use key signature.
    b) A major scale on the bass clef, down and up. Use accidentals only.

26. Transpose the given melodies : **4**
    a) Up a minor 3rd

    b) Down a perfect 5th

27. Label the chords with roman numerals below the stave and chord symbols above to show the chord progression. **4**

28. Write a 4 bar melody using the C pentatonic major scale. Write them in 2-bar phrases with the first phrase ending on G and the second phrase on C, on the treble clef. Use $\frac{5}{8}$ time signature. **4**

29. Using minims, write 4-part chords using the chords shown by the roman numerals. Double the root in each case even if the chord is in first or second inversion. Use key signature. **4**
    a) B minor ii dim b
    b) D♭ major Vc

Answer any **three** from questions 30-34.

30. Complete the following as directed : **6**
   a) Write the bass line (add repeated notes/octaves)

   b) Write the melody line (add some passing notes)

31. On the following scales, write the tonic, super-tonic, sub-dominant and dominant 7th triads. Label them with roman numerals below and chord symbols above. Use key signatures and necessary accidentals. **6**
   a) B♭ melodic minor, ascending, bass clef.
   b) G♯ harmonic minor, descending, alto clef.

○

32. Work out the following modulations : **6**

a)

Tonic chord in _____   Perfect cadence in _____
                          The perfect cadence is in the _____

b)

Tonic chord in _____   Perfect cadence in _____
                          The perfect cadence is in the _____

33. Discuss the music of the 20th century . **6**

34. Look at the music and answer the following questions . **6**

a) In which key is this piece ?
b) Name two unaccented passing notes in bar 5 .
c) Name the interval between the two notes marked with asterisks in bar 6.
d) Describe the dynamic markings in this piece.
e) Write an appropriate roman numeral below the last crotchet beat of bar 7.
f) Give the meaning of scherzando.

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2023
HISTORY

Full marks : 80   Time : 3 hours
General instructions:
i.   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii.   The question paper consists of 31 questions.
iii. Marks are indicated against each question.
iv.   Alternate questions for visually impaired students is provided in question 31
Answers to questions carrying 1 mark should not exceed one sentence.
Answers to questions carrying 2 marks should not exceed 50 words.
Answers to question carrying 4 marks should not exceed 100 words.
Answers to questions carrying 6 marks should not exceed 200 words.
Answers to questions carrying 8 marks should not exceed 300 words
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1. What is the literal meaning of Mohenjodaro?   **1**

2. What is the approximate year of the Mahabharata given by Arayabhatta?   **1**

3. What does "Tirthankara" mean?   **1**

4. When did Nadir Shah invade India?   **1**

5. Who was the founder of the Vijayanagara Empire?   **1**

6. Who started the Lingayat Sect?   **1**

7. When did the Santhal rebellion take place?   **1**

8. Name the first martyr of the Indian freedom movement.   **1**

9. Who founded the Swarajist Party?   **1**

10. Who was elected as the Permanent President of the Constituent Assembly?   **1**

11. What is the importance of the 6th Century B.C in the history of ancient India?   **2**

12. What are the two important rules about the Gotra of Women?   **2**

13. Name the four classes of land recorded in the Ain-i-Akbari.   **2**

14. What is the condition of Hampi bazaar today?   **2**

15. Who was Marco Polo and when did he visit India?   **2**

16. Give two features of Permanent Settlement in Bengal.   **2**

17. How did the Archaeologist trace socio-economic differences in the Harappa society? **4**

18. Briefly describe the assessment system of land revenue during the reign of Akbar. **4**

19. Describe the major teachings of Guru Nanak Dev. **4**

20. What were the causes of the Deccan Riots of 1875? **4**

<u>Answer **any two** from Q.21 to Q.24</u> **2x6=12**

21. Describe the causes of decay and disappearance of the Harappan civilization.

22. Write six arguments in favour of the authenticity of the Mahabharata.

23. Describe the features of the buildings and palaces built by the Vijayanagara rulers at Hampi.

24. Discuss Gandhiji's Political ideology.

<u>Answer **any three** from Q.25 to Q.30</u> **3x8=24**

25. Discuss the main features of the Mauryan Administration.

26. Describe the teachings of Gautama Buddha.

27. Describe the salient features of the Bhakti movement.

28. Who was Bernier? What did he write about the social and cultural condition of India with special reference to Bengal? (1+7=8)

29. Name the two Indian historians who supported the revolt of 1857 as the first war of Independence. Justify the statement "The war of 1857 is the first war of Indian Independence". (2+6=8)

30. Examine the basic values of the Indian Constitution.

31. On the map given below six (**6**) places have been numbered as **1, 2, 3, 4, 5** & **6**. Match the numbered places with the questions and name the places. **1x6=6**

    (a) Kalibangan (Harappa site)   (b) Battle that changed the heart and mind of Ashoka
    (c) Vijayanagara Empire   (d) Buddha's first sermon
    (e) Chauri Chaura incident   (f) INC session of 1826

For visually impaired students in lieu of Q no. 31   (1x6=6)

(a) In which State is (Harappan site) Kalibangan located?

(b) Name the battle that changed the heart and mind of Ashoka.

(c) In Which State is Vijayanagara located?

(d) Name the place where Buddha delivered his first Sermon.

(e) In which State did the Chauri Chaura incident take place?

(f) In which city was the INC session of 1826 held?

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2023
ACCOUNTANCY

Full marks : 70   Time : 3 hours

General instructions:
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 24 questions.*
iii) *Marks are indicated against each question.*
iv) *General choice has been provided in some questions.*
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. Define partnership.   **1**

2. Name any two essential elements of partnership.   **1**

3. State the accounting treatment of accumulated profits and general reserve.   **1**

4. How is sacrificing ratio calculated?   **1**

5. Mention any two factors affecting the valuation of goodwill.   **1**

6. Define company.   **1**

7. Write the nature of Debenture Allotment A/C.   **1**

8. X and Y started business on 1st April 2021 with capital of ` 3,00,000 and
    ` 1,80,000 respectively. On 1st May, X introduced an additional capital of
    ` 60,000 and Y withdrew ` 30,000 from his capital. On 1st October, 2021 X
    withdrew ` 1,20,000 from his capital and Y introduced ` 1,50,000. Interest
    on capital is allowed @ 6% per annum. Calculate the interest on capital for
    the year ending 31st March, 2022.   **3**

9. M, N and O are presently sharing profits and losses in the ratio of 5: 3: 2, decide to
    share future profits and losses equally with effect from 1st April 2022. The goodwill
    of the firm has been valued at ` 1,08,000. Goodwill already appearing in the books
    is at ` 18,000. Write the necessary accounting treatment.   **3**

10. Write any three points of difference between sacrificing ratio and gaining ratio.   **3**

11. D Limited has an authorized capital of ` 10,00,000 divided into equity shares of ` 10 each. The company invited applications for 40,000 shares. The issue was fully subscribed. All calls were made and were duly received except the final call of ` 2 per share on 1000 shares. 500 of these shares on which final call was not received were forfeited. Show how share capital will appear in the balance sheet of the company as per Schedule III to the Companies Act 2013. **3**

12. Explain three sources of redemption of debentures. **3**

Answer **any three (3)** from the following questions: **3x6=18**

13. Write any six points of difference between reserve capital and capital reserve.

14. Zee Limited forfeited 50 shares of ` 100 each issued at 10% premium for non payment of allotment money of ` 30 per share (including premium) and first call of ` 30 per share. The second and final call of ` 20 per share was not yet called. 20 of these shares were re-issued at ` 80, paid up for ` 90 per share. Pass journal entries regarding forfeiture and re-issue of shares.

15. Explain any six types of debentures.

16. Write in brief any six limitations of financial analysis.

17. From the following information, prepare Comparative Statement of Profit and Loss

	31.3.2021	31.3.2022
Revenue from operations (% cost of materials consumed)	200%	125%
Cost of materials consumed	` 1,50,000	` 3,36,000
Other expenses (% of operating revenue)	10%	10%
Tax rate	30%	30%

18. X Limited has a current ratio of 4.5:1 and quick ratio of 3:1. If its inventories are ` 36,000, find out its total current assets, total current liabilities and quick assets.

Answer **any three (3)** from the following questions: **3x10=30**

19. A, B and C were partners in a firm sharing profits and losses in the ratio of 5:3:2 respectively. A died on 28th February 2022. The Balance Sheet on that date was as follows:

Liabilities	`	Assets	`
A's capital	12,000	Goodwill	6,000
B's capital	16,000	Machinery	35,000
C's capital	12,000	Furniture	6,000
Contingency Reserve	12,000	Stock	9,000
Creditors	20,000	Debtors	15,000
Employees Provident Fund	2,000	Cash	3,000
	74,000		**74,000**

On A's death, the assets and liabilities were revalued as follows:
i) Machinery ` 45,000 and furniture ` 7,000.
ii) A provision of 10% was created for doubtful debts.
iii) A provision of ` 15,000 was made for taxation.
iv) The goodwill of the firm was valued at ` 21,000 on A's death.
v) The amount payable to A was transferred to his executors account.
  Prepare
i) Revaluation Account,
ii) Partners Capital Accounts and
iii) Balance Sheet of B and C.   (3+4+3=10)

20. Following was the Balance Sheet of D, G and T

Liabilities	`	Assets	`
Creditors	30,000	Bank	12,000
Bills payable	6,000	Debtors	18,000
G's loan	4,800	Stock	12,000
R's loan	7,200	Furniture	9,000
General reserve	12,000	Land and building	1,47,000
D's capital	60,000	G's capital	12,000
T's capital	90,000		
	2,10,000		**2,10,000**

  The firm was dissolved on the above date on the following terms:
i) Debtors realized ` 16,800; creditors and bills payable were paid at a discount of 10%.
ii) Stock was taken over by T for ` 9,000 and furniture was sold to W for ` 7,200.
iii) Land and building was sold for ` 1,68,000.
iv) R's Loan was paid by a cheque for the same amount.
v) The firm had a joint life policy of ` 3,00,000 with a surrender value of ` 60,000. The policy was surrendered at its surrender value.
  Prepare Realisation Account, Bank Account and Capital Accounts of D, G and T.

21. P Limited issued a prospectus inviting applications for 20,000 shares of ` 10 each at a premium of ` 2 per share payable as follows:
On application ` 2, on allotment ` 5 (including premium), on first call ` 3 and second & final call ` 2.

    Applications were received for 30,000 shares. Applications for 2000 shares were accepted in full. Applications for ` 6,000 shares were rejected and prorate allotment was made to the remaining applicants. It was decided to utilize excess application money towards the amount due on allotment. All money was duly received except X to whom 400 shares were allotted and Y the holder of 600 shares failed to pay the two calls. Pass the necessary journal entries.

22. Z Limited offered 20,000 shares of ` 10, each at a premium of 10% payable as follows:
On application ` 2(1st January), on allotment ` 4(including premium) (1st April), on 1st call ` 3 (1st June), on 2nd & final call ` 2 (1st August).

    Applications were received for 18,000 shares and the directors made allotment. One share holder to whom 400 shares were allotted paid the entire balance on his share holdings with allotment money and another share holder did not pay allotment and first call money on his 600 shares but which he paid with final call.

    Calculate the amount of interest received on calls in arrears on 1st August and also give journal entries to record the above transactions assuming that calls in arrears is maintained.

23. From the following information, prepare a Cash Flow Statement:

Balance Sheets as at 31.3.2021 & 31.3.2022

Particulars	31.3.2022 `	31.3.2021 `
I. Equity & Liabilities		
i) Shareholders' Funds:		
- Share Capital	10,00,000	7,00,000
- Reserves & Surplus (Profit & Loss A/C)	2,50,000	1,50,000
ii) Non Current Liabilities	–	–
iii)Current Liabilities		
Short-term provisions (proposed dividend)	50,000	40,000
Total	**13,00,000**	**8,90,000**
II. Assets		
i) Non Current Assets		
-Tangible Fixed Assets	8,00,000	5,00,000
ii) Current Assets		
- Inventories	1,00,000	75,000
- Cash & Cash Equivalents	4,00,000	3,15,000
Total	**13,00,000**	**8,90,000**

Additional information:

During the year, ` 50,000 depreciation has been charged to fixed asset; a piece of fixed assets costing ` 12,000 (book value ` 5,000) was sold at 60% profit on book value.

24. From the following information, prepare a Cash Flow Statement.

BALANCE SHEETS
as at 31ˢᵗ March, 2020 and 31ˢᵗ March, 2021

Particulars	31.03.2021 `	31 .03.2020 `
I. Equity & Liabilities		
i) Shareholders' Funds:		
- Share Capital	1,30,000	90,000
- Reserves and Surplus (Profit & Loss A/C)	85,000	50,000
ii) Non-Current Liabilities	-	-
iii) Current Liabilities		
- Trade Payables	22,000	17,400
Total	**2,37,000**	**1,57,400**
II. Assets		
i) Non Current Assets		
-Tangible Fixed Assets	1,66,000	93,400
-Intangible Assets (Goodwill)	_	1,000
ii) Current Assets		
- Inventories	21,000	22,000
- Trade Receivables	39,000	36,000
-Cash & Cash Equivalents	6,000	5,000
- Short term loans & advances(advance tax)	5,000	-
Total	**2,37,000**	**1,57,400**

Additional information:

During the year, depreciation charged on fixed assets was ` 20,000 and income tax ` 5,000 was paid in advance.

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2023
PHYSICS

Total marks : 70   Time : 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 30 questions. All questions are compulsory.*
iii) *Marks are indicated against each question.*
iv) *Internal choice has been provided in some questions.*
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1.   Which of the following relation does not hold at resonance in LCR series circuit?   **1**

    (a) $\omega = \dfrac{1}{LC}$ (b) $\omega = \dfrac{1}{\sqrt{LC}}$

    (c) $\omega L = \dfrac{1}{C\omega}$ (d) $C\omega = \dfrac{1}{L\omega}$.

2.   If the refractive index for a medium is 1.5, then velocity of light in this medium will be (in m/s)   **1**
    (a) 10×10^8 (b) 2×10^8
    (c) 3×10^8 (d) 4×10^8.

3.   Photons of energy of 6eV are incident on a metal surface whose work function is 4eV. The minimum kinetic energy of the emitted photoelectrons will be   **1**
    (a)   0eV   (b)   1eV   (c)   2eV   (d)   10eV.

4.   An atom bomb works on the principle of   **1**
    (a)   nuclear fusion   (b)   nuclear fission
    (c)   α-decay   (d)   β-decay.

5.   When a semiconductor is heated,   **1**
    (a)   number of electrons increases while that of holes decreases
    (b)   number of holes increases while that of electrons decreases
    (c)   number of electrons and holes remains same
    (d)   number of electrons and holes increases equally.

6.   A wire cuts across a flux of 0.2×10^{-2} weber in 0.12 second. What is the emf induced in the wire?   **1**

7.   **a.**   Arrange the following radiations in ascending order with respect to their frequencies:
               X-rays, microwaves, UV rays and radiowaves.
                                           Or   **1**
      b.   How are electromagnetic waves produced?

8.   Define impact parameter.   **1**

9.   Why does PN junction not conduct in reverse bias?   **1**

10.   **a.**   What is the function of a repeater used in communication system?
                                           Or   **1**
      b.   How does the effective power radiated from a linear antenna depend
               on the wavelength of the signal to be transmitted?

11.   **a.**   Two charges 3×10^{-8}C and -2×10^{-8}C are located 15cm apart. At
               what point on the line joining the two charges is the electric potential
               zero? Take the potential at infinity to be zero.
                                           Or   **2**
      b.   Three capacitors of capacitance 2pF, 3pF and 4pF are connected
               parallel.
               i)   What is the total capacitance of the combination?
               ii)   Determine the charge on each capacitor if the combination is
                     connected to a 100V supply.

12.   **a.**   A current of 5 ampere's flows steadily through a metal wire of cross-
               sectional area 4×10^{-6}m^2. If the number density of conduction
               electrons in the wire be 4.8×10^{28}m^{-3}, find
               i)   current density and
               ii)   drift speed of electrons.
                                           Or   **2**
      b.   A battery of emf 10V and internal resistance 3Ω is connected to a
               resistor. If the current in the circuit is 0.5A, what is resistance of the
               resistor? What is the terminal voltage of the battery when the circuit
               is closed?

13.   **a.**   Write the expression for the force on a charge of moving with velocity
               $\vec{v}$ in a magnetic field $\vec{B}$. Under what circumstances the force shall be
               zero?
                                           Or   **2**
      b.   What is the nature of magnetic field produced by a current flowing
               in a straight conductor? Name the rule to find the direction of
               magnetic field.

14.   **a.**   Find the magnetic potential energy stored in an inductor carrying
               current I.
                                           Or   **2**

b. Prove mathematically that current in a capacitor leads the voltage by a phase angle of $\frac{\pi}{2}$ when an alternating voltage is applied on it.

15. **a.** Show that the speed of propagation of electromagnetic waves in free space is is $C = \dfrac{1}{\sqrt{\mu_0 \varepsilon_0}}$ where the symbols have their usual meanings.

Or   2

b. Give four properties of electromagnetic waves.

16. **a.** Calculate the binding energy of an alpha-particle. Given
Mass of proton = 1.0073 amu
Mass of neutron = 1.0087 amu
Mass of α-particle = 4.0015 amu.

Or   2

b. Express 1 joule in eV. Taking 1amu = 931 MeV, calculate the mass of C-12 atom.

17. **a.** Find the magnitude of electric field on the equatorial plane of an electric dipole.

Or   3

b. Establish the relation between electric field and potential. If electric potential within a certain region is constant, what will be the nature of electric field inside the region?

18. **a.** How does the resistivity of a conductor vary with temperature?

Or   3

b. Draw a circuit showing a wheatstone bridge. Using Kirchoff's rules, obtain the balanced condition of wheatstone bridge.

19. **a.** Two long and parallel straight wires A and B carrying currents of 8.0A and 5.0A in the same direction are separated by a distance of 4.0cm. Estimate the force on a 10cm section of wire A.

Or   3

b. A circular coil of 30 turns and radius of 8.0cm carrying a current of 6.0A is suspended vertically in a uniform horizontal magnetic of magnitude 1.0T. Find the magnitude of torque:
i)   when the coil makes an angle of 30° with the direction of field.
ii)   When the coil is parallel with the field.
Would the torque change if the circular coil is replaced by a planar coil that encloses the same area?

20. **a.** Using Biot-Savart's law, find the magnitude of magnetic field on the axis of a circular current carrying coil.

Or   3

b.   Explain the working principle of moving coil galvanometer with a labelled diagram.

21.   **a.**   Define electromagnetic induction. Discuss two methods for producing induced emf.

                                      Or   **3**

  b.   Obtain the expression of mutual inductance for two long co-axial solenoid.

22.   **a.**   Obtain the relation between RMS value and peak value of an AC.

                                        Or   **3**

  b.   Find the average power of AC over one complete cycle in an LCR series circuit.

23.   **a.**   A convex lens of focal length 20cm in air is made of material of refractive index 1.6. The lens is now immersed in a liquid whose refractive index is 1.3. Determine the new focal length and nature of the lens inside the liquid.

                                        Or   **3**

  b.   A compound microscope consists of an objective lens of focal length 2.0cm and an eyepiece of focal length 6.25cm separated by a distance of 15cm. How far from the objective should an object be placed in order to obtain the final image at-
i)   the least distance of distinct vision
ii)   at infinity.

24.   **a.**   What is total internal reflection? Give the relation between refractive   index and critical angle. Write one application of total internal reflection.

                                        Or   **3**

  b.   Using Huygen's wave theory, prove that for refraction of light, the ratio of sine of angle of incidence to sine of angle of refraction is constant.

25.   **a.**   What is photoelectric emission? State the laws of photoelectric effect.

                                        Or   **3**

  b.   Obtain the de-Broglie relation for material particles. What is the rest mass of a photon?

26.   **a.**   Write the conclusion drawn from alpha particle scattering experiment. Define distance of closest approach.

                                        Or   **3**

  b.   On the basis of Bohr's theory, explain the energy levels of hydrogen atom with a diagram.

27. **a.** Draw the block diagram of a generalized communication system. Mention two basic modes of communication.

    Or 3

    b. What is ground wave? Why is short wave communication over long distances not possible via ground waves?

28. **a.** State and prove Gauss law. Using this law, obtain the magnitude of electric field inside and outside of a charged spherical shell.

    Or 5

    b. Draw a labelled diagram of Van de Graff generator. Explain its working principle to show how by introducing a small charged sphere into a larger sphere, a large amount of charge can be transferred to the outer sphere.

29. **a.** Prove the relation $A + \delta = i + e$ for a prism. What does relation become, when prism is placed in minimum deviation?

    Or 5

    b. Explain Young's double slit experiment. What is the effect on the interference fringe, when monochromatic source is replaced by a source of white light? Write two conditions to obtain sustained interference.

30. **a.** What is a rectifier? Explain with circuit diagram the working of a full wave rectifier. Also show its input-output wave formation.

    Or 5

    b. Draw a circuit diagram for n-p-n transistor in common emitter configuration. Draw the input and output characteristics and explain them.

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2023
ALTERNATIVE ENGLISH

Full marks : 80   Time : 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 23 questions. All questions are compulsory.*
iii) *Marks are indicated against each question.*
iv) *Internal & general choice have been provided in some questions.*
N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

SECTION -A (Prose)

1.   What does Russell mean by 'a sense of proportion'?   **1**

2.   According to Nehru, which factor has propelled human civilisation forward? **2**

3.   Why was Franz taken by surprise when he arrived in school that day?   **2**

4.   Explain the line, "With every increase in knowledge, wisdom becomes more necessary".   **3**

5.   What qualities does Bacon ask to keep in mind when associating with followers?   **3**

6.   **a.** Identify any two main themes discussed by Nehru in the letter.
                        Or   **4**
     b. "When people are enslaved as long as they hold fast to their language it is as if they had the key to their prison?" Explain.

7.   Answer any **one (1)** from the following questions:
     a. How has Nehru juxtaposed nature with science in his letter?   **5**

     b. What is the essence of wisdom? How can it be acquired?   **1+4=5**

     c. *"There is a kind of followers likewise which are dangerous, being indeed espials; which enquire the secrets of the house, and bear tales of them to others. Yet such men, many times, are in great favour; for they are officious, and commonly exchange tales."*
     (i)   What do espials exchange?   **1**
     (ii)   How are they officious?   **2**

(iii)   What is the dangerous thing about espials?   2

SECTION- B (Poetry)

8.   What is the significance of the reference to the statue of Neptune by the Duke? **2**

9.   The poem, 'All the World's a Stage' is critical of all stages of a man's life, from the whining baby to the oblivious old man. Do you agree or disagree with this statement? Elucidate with examples.   **4**

10. **a.** Critically analyse the lines given below:
     From rest and sleep, which but thy pictures be,
     Much pleasure, then from thee, much more must flow,
     And soonest our best men with thee do go,
     Rest of their bones, and soul's delivery.   **4**
     Or
     b. *Weavers, weaving at fall of night,*
     Why do you weave a garment so bright?...
     (i) What time of the day is it?   (1)
     (ii) Why are the weavers making a bright garment?   (2)
     (iii) What is the brightness of the garment compared to?   (1)

11. **Answer any one (1) from the following questions:**   **1x5=5**
     a. Do you think John Donne is worried at the thought of his mortality? Elucidate your answer with lines quoted from the text.

     b. Explain the theme of appearance versus reality as expressed in the poem 'My Last Duchess'.

     c. Explain how colours have been used in the poem to describe moods.

SECTION- C (Drama)

12. What changes does the war bring to Philip's personality?   **2**

13. *"Now, understand once and for all, Philip, while you remain in my house I expect not only punctuality, but also civility and respect. I will not have impertinence."*
     (i)   Who is the speaker in the above lines?   **1**
     (ii) What does Uncle James expect from Philip?   **2**

14. **a.** Prepare a character sketch of Philip.
                              Or   **5**
     b. What is the importance of the dream sequence in the play, 'The Boy Comes Home'?

SECTION -D (Fiction)

15. What did the convict order Pip to bring for him in the marshes?   **1**

16. How did Pip repay his benefactor?   **2**

17. Why did Orlick decide to take revenge on Pip?   **3**

18. **a**. Give a character sketch of Joe Gargery.

    Or   **4**

    b. Do you think the novel would change if Pip had refused to help Magwitch when he was in the marshes? Explain.

19. **a**. Explain with suitable example on the theme 'Greed for Money' in the novel Great Expectations.   **5**

    Or

    b. Describe Miss Havisham and her house. How do you think this would have determined Estella's personality?   (3+2=5)

SECTION -E (Grammar)

20. **Fill in the blanks with suitable prepositions:**   **3x1=3**
    (a)   She did the embroidery _____ hand.
    (b)   The clerk spoke _____ a polite way.
    (c)   The cat jumped _____ the table.

21. **Insert correct conjunctions:**   **3x1=3**
    (a)   You must work _____ starve.
    (b)   _____ that is so, I am content.
    (c)   God made the country _____ man made the town.

22. **Correct the following sentences and rewrite them:**   **4x1=4**
    (a)   Aspirin is often given to lesson the pain in case of injuries.
    (b)   I will wait unless the bus arrives.
    (c)   The baby was weighing three pounds at birth.
    (d)   My birthday is in 3rd October.

SECTION-F (Reading)

23.   **Read the passage carefully and answer the questions that follow:**
        Autosuggestion is the art of turning one's failure into success by using the power of one's imagination. You are what you think you are. You become what you constantly imagine yourself becoming. By suggesting to yourself, again and again that you will be successful or strong or beautiful or healthy, you can soon

change your defeats into victories, your weakness into strength, your plainness into beauty and your illness into health.

Your imagination controls your body and your will power. If you control your imagination by always holding pictures of success and happiness in your mind, you can be a master of your body, your will-power and your circumstances.

Your imagination can help you in achieving self mastery, but your will power cannot. Have you ever tried walking on a railway line? You are able to balance your body on a seven centimetre wide iron girder, without any fear of falling. Now imagine that the railway line runs across a river like a bridge. Imagine that it is hanging in the air, fastened at both ends to all towers. Can you now walk across it? No, you cannot, even though you apply your will-power as forcefully as you wish to. Neither your body nor your will-power can help you here. Why? It is because your imagination brings to your mind the horrible scenes of your falling down into the river, your drowning, death and perhaps even funeral. You dare not step on the line because of fears imagined by your mind. Your powerful imagination cripples both your body and our will-power.

It is obvious that the fears in your imagination thwart the working of your will-power. The way to success and happiness, therefore lies in your turning out fears from your imagination. Banish horrible pictures from your mind, fill your imagination with images of success and prosperity. In other words, control your imagination through auto suggestion and you will be able to control your body, your will-power and your circumstances.

A man who starts off in life with the idea, "I shall succeed", always does succeed. He succeeds because he uses the powers of imagination necessary to bring about success. But if there is a man who always doubts himself or imagines failing, he will never succeed in anything although he may have good opportunities all around him.

You must therefore, practice autosuggestion. Pack your imagination with happy pictures and confident thoughts. Tell yourself at all hours of the day, "Everyday, in every way I am getting better and better" as soon as you are thus able to control your imagination through autosuggestion, you will attain self-mastery and achieve wonderful results in all spheres of life.

a. **Answer the following questions:**
  (i)   What is autosuggestion?   **1**
  (ii)   Can your will-power help you achieve self-mastery? Why?   **1+1=2**
  (iii) What is the way to success and happiness in life?   **2**
  (iv) How can one practice autosuggestion?   **2**

b. **Find the synonyms from the passage:**   **3x1=3**
  (i)   Hinder
  (ii)   Not very beautiful
  (iii) Drive out

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2023
HINDI

Total marks : 80   Time : 3 hours

General Instructions:
i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii)   The question paper consists of 26 questions. All questions are compulsory
iii) Marks are indicated against each question.
iv)   Internal & general choice have been provided in some questions.
N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

SECTION - A (अपठित बोध)

1.   **निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिएः**

हम माया अविद्या के चक्र में फँसकर वास्तविकता को भूल जाते हैं। रज और तम में प्रवृति दौड़ती हैं, इस कार्य विधि को निरंतर प्रोत्साहन मिलने से वह इतनी प्रबल हो जाती है कि आत्मा की पुकार के स्थान पर मन की इच्छा तृष्णा की प्रधानता प्राप्त कर लेती है। इस दुष्प्रवृति से छुटकारा पाकर आत्मानुगत होने पर ही आनंद प्राप्त हो सकता है। इस कार्य पद्धति को योग साधना कहते हैं। भारतीय मनोविज्ञान के अनुसार वह योग पद्धति श्रेष्ठ है, क्योंकि इसमें मनुष्य की रूचि और प्रवृति ऊँची रहती है। सात्विकता में देवत्व को विकसित करने का प्रचुर अवसर मिलता है। मन शुद्ध होता है। मन की शांति, एकाग्रता मिलती है तथा आध्यात्मिक शक्तियाँ बढ़ती हैं। आज योग विद्या को सही दृष्टि से अपनाने की आवश्यकता है। मात्र आसन या प्राणायाम ही योग नही वास्तविक महत्व आन्तरिक साधना ही है।

(क) उपर्युक्त गद्यांश के लिए एक उचित शीर्षक दीजिए ?   1

(ख) हम वास्तविकता को क्यों भूल जाते हैं ?   1

(ग) किसमें प्रवृति दौड़ती है ?   1

(घ) योग पद्धति श्रेष्ठ क्यों हैं ?   1

(ङ) सात्विकता में किसको विकसित करने का प्रचुर अवसर मिलता हैं ?   1

(च) 'वास्तविक' शब्द का विलोम शब्द लिखिए ?   1

(छ) 'इच्छा' शब्द का एक पर्यायवाची शब्द लिखिए?   1

(ज) आनंद की प्राप्ति कैसे हो सकती है ?   1

(झ) किसको सही दृष्टि से अपनाने की आवश्यकता हैं ?   1

(ञ) 'मनोविज्ञान' का समास विग्रह कीजिए ।   1

SECTION - B (संरचना)

2.   **निम्नलिखित प्रश्नों के उत्तर 150-200 शब्दों में लिखिएः-**

(क) 'स्वच्छ जल - स्वस्थ जीवन' विषय पर एक वस्तुनिष्ठ निबंध लिखिए।

अथवा   6

(ख) 'समाचार पत्र से लाभ' के विषय में पिता-पुत्र के बीच हुई बातचीत को संवाद के रूप में लिखिए।

3.   **किसी एक प्रश्न का उत्तर लिखिएः-**

(क) दिए गए मुद्रित प्रति का व्याकरण एवं संरचना संबंधी त्रुटियों को संशोधित करते हुए संपादन कीजिए।

आजकल का बच्चा हमेशा मोबाइल में ही लगा रता है। इस कारण उनका बाहर निकलना खेलना - कूदना सभी बंद हो गए है।माता - पिता का पास भी इतना समय नही है कि वे अपने बच्चा के साथ बैठ सके।

अथवा   **4**

(ख) आप सर्वोदय विद्यालय, कोहिमा के प्रधानाचार्य हैं। आपके विद्यालय में 15 अप्रैल, 2023 को वार्षिक समारोह का आयोजन होने वाला है। इस अवसर पर छात्र-छात्राओं के माता-पिता के लिए एक निमंत्रण - पत्र तैयार कीजिए।

SECTION - C (व्याकरण एवं अनुवाद)

4. **निम्नलिखित शब्दों के दो-दो पर्यायवाची शब्द लिखिए:**

    बादल, आँख   **2x1=2**

5. **निम्नलिखित शब्दों के संधि - विच्छेद कीजिए:**

    परोपकार, अन्वय ।   **2x1=2**

6. **दिए गए सामासिक पदों का विग्रह कीजिए:**

    राजमहल, सीताराम   **2x1=2**

7. **दिए गए मुहावरों का अर्थ वाक्य प्रयोग द्वारा स्पष्ट कीजिए:**

    तीर निशाने पर न लगना,   हौंसला पस्त होना ।   **2x1=2**

8. **यमक अलंकार किसे कहते है ? उदाहरण द्वारा स्पष्ट करें ।**   **2**

9. **वीर रस का स्थायी भाव क्या है ?**   **1**

10. **दोहा छंद किसे कहते है ?**   **1**

11. **निम्नलिखित वाक्यों का हिन्दी में अनुवाद कीजिए:**   **3**

    All the great men have been successful. They are remembered for their great achievement. But it is certain that success comes to those who are sincere, hardworking, loyal and committed to their goals. Success has been man's greatest motivation.

SECTION - D (साहित्य)

गद्य भाग

12. जेन्यूए तथा उसके पुत्र को किसने मार डाला था ?   **1**

13. पूस का महीना आने वाला है, यह सोचकर हल्कू क्यों चिंतित है ?   **2**

14. लेखक के मित्र बाजार क्यों गये थे, वे वापिस किस हाल में लौटे ?   **2**

15. एकांकी 'बहुत बड़ा सवाल' में लेखक ने किसकी प्रवृति और मनोवृति का चित्रण किया है ?   **3**

16. 'बाजार दर्शन' के अनुसार संयमी व्यक्ति पैसे का उपयोग किस प्रकार करता है ?   **3**

17. निम्न में से किसी एक प्रश्न का उत्तर दीजिए:

    प्रस्तुत कथन किसने, किससे तथा क्यों कहा है ?

(क) "ममी तुम भी कमाल करती हो, अपनी जिन्दगी को लेकर भी तुम सपने देखो और मेरी जिन्दगी के सपने भी तुम्ही देख डालो" ।

अथवा   **1+1+2=4**

(ख) 'मुझे आपत्ति है । जब प्रस्ताव हिन्दी में है तो संस्था का नाम भी हिन्दी में होना चाहिए' ।

18. **नीचे दिए गए प्रश्नों में से किसी एक प्रश्न का उत्तर दीजिए** ?

(क) गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए-

उन लोगों के दो नाम थे- इंदर सेना या मेढक-मण्डली । बिलकुल एक दूसरे के विपरीत । जो लोग उनके नग्नस्वरुप शरीर, उनकी उछलकूद, उनके शोर-शराबे और उनके कारण गली में होने वाली कीचड़ काँदों से चिढ़ते थे, वे उन्हें कहते थे मेढक-मण्डली । उनकी अगवानी गालियों से होती थी।वे होते थे दस-बारह बरस से सोलह - अठारह बरस के लड़के साँवला नंगा बदन सिर्फ एक जाँघिया या कभी-कभी सिर्फ लंगोटी । एक जगह इकट्ठे होते थे । पहला जयकारा लगता था, "बोल गंगा मैया की जय" ।जयकारा सुनते ही लोग सावधान हो जाते थे । स्त्रियाँ और लड़कियाँ छज्जे, बारजे से झाँकने लगती थी और यह विचित्र नंग-घड़ंग टोली उछलती-कूदती समवेत पुकार लगाती थी।

(i)	गाँव से पानी माँगने वालों के नाम क्या थे ?	1
(ii)	मेढक-मंडली का दूसरा नाम क्या है ?	1
(iii)	मेढक-मंडली में कैसे लड़के होते थे ?	1
(iv)	इंदर सेना के जयकारे की क्या प्रतिक्रिया होती थी ?	1
(v)	मेढक - मंडली की अगवानी किससे होती थी ?	1

(ख) पति द्वारा घर से निकाले जाने पर मार्ग में सुरक्षा के लिए जेन्यूए ने क्या-क्या तैयारियाँ की ?   5

(ग) 'न जाने कितनी बाकी है, जो किसी तरह चुकंते नहीं आती' । इस स्थिति का शिकार केवल हल्कू ही नहीं था, बल्कि उस समय के भारतीय किसान थे। इस कथन की समीक्षा कीजिए ।   5

पद्य भाग

19. 'पतंग' कविता के अनुसार बच्चों की दुनिया किसके समान होती है ?   1

20. कवि ने क्या सहर्ष स्वीकारा है   ?   कविता के आधार पर लिखिए ।   2

21. 'घर की याद' कविता में पिता के किस व्यक्तित्व की चर्चा की गई है ?   3

22.(क)   "बरषत हरषत, लोग सब, करषत लखै न कोई ।

तुलसी प्रजा सुभाग ते, भूप भानु सो होई ।"

(i) यह पंक्ति किस पाठ से ली गई है ?   1

(ii) इस पाठ के के रचनाकार कौन है ?   1

(iii) इस पंक्ति का भाव स्पष्ट कीजिए ।   2

अथवा

(ख) बहलाती सहलाती आत्मीयता बरदाश्त नही होती है

(i) यह पंक्ति किस पाठ से ली गई है ?   (1)

(ii) इस पाठ के रचनाकार कौन है ?   (1)

(iii) इस पंक्ति का भाव स्पष्ट कीजिए।   (2)

23. किसी एक पद्यांश की संदर्भ एवं प्रसंग सहित व्याख्या कीजिए: 1x5=5

(क) जन्म से ही वे अपने साथ लाते है, कपास

पृथ्वी घूमती हुई आती है उनके बेचैन पैरों के पास

जब वे दौड़ते हैं बेसुध

छतों को भी नरम बनाते हुए

(ख) सरनागत कहँ जे तजहिं, निज अनहित अनुमानि।

ते नर पाँवर पापमय, तिनहि बिलोकत हानि।।

(ग) किन्तु उनसे यह न कहना

उन्हें देते धीर रहना

उन्हें कहना लिख रहा हूँ

उन्हें कहना पढ़ रहा हूँ

कथा साहित्य

24. निर्मला ने अपनी अंतिम इच्छा रूक्मिणी को क्या बताई ?   2

25. मुंशी प्रेमचन्द जी ने निर्मला उपन्यास में समाज के किन-किन बुराइयों का वर्णन किया हैं ?   3

26. (क)   उपन्यास में वर्णित कथा के आधार पर मुंशी तोताराम का चरित्र - चित्रण कीजिए ।   5

अथवा

(ख) जिस दिन से तोताराम ने निर्मला के बहुत मिन्नत समाजत करने पर भी मंसाराम को बोर्डिंग हाउस में भेजने का निश्चय किया था, उसी दिन से उसने मंसाराम से पढ़ना छोड़ दिया था । यहाँ तक कि बोलती भी न थी। उसे स्वामी की इस अविश्वासपूर्ण तत्परता का कुछ-कुछ आभास हो गया था।ओफ्फोह इतना शक्की मिजाज ईश्वर ही इस घर की लाज रखें।इनके मन में ऐसी-ऐसी दुर्भावनाएँ भरी हुई है। मुझे यह इतनी गई -गुजरी समझते है। ये बातें सोच-सोचकर वह कई दिन रोती रही। तब उसने सोचना शुरु किया, इन्हें क्यों ऐसा संदेह हो रहा है मुझमें ऐसी कौन-सी बात है, जो इनको आँखों में खटकती हैं।बहुत सोचने पर भी उसे अपने में कोई ऐसी बात नजर न आई। तो क्या उसका मंसाराम से पढ़ना उससे हँसना-बोलना ही इनके संदेह का कारण हैं, तो फिर मैं पढ़ना छोड़ दूंगी, भूलकर भी मंसाराम से न बोलूंगी, उसकी सूरत न देखूँगी।

(i) किसने मंसाराम को बोर्डिंग हाउस भेजने का निश्चय किया था ?   (1)

(ii) किसके मिजाज शक्की थे ?   (1)

(iii) निर्मला नें मंसाराम से पढ़ना क्यों छोड़ दिया ?   (1)

(iv) निर्मला ने किसकी सूरत न देखने का निश्चय किया ?   (1)

(v) 'आँखों में खटकना ' का क्या अर्थ है ?   (1)

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2023
BENGALI

Total marks : 80 *Time : 3 hours*

General Instructions:
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 24 questions. All questions are compulsory*
iii) *Marks are indicated against each question.*
iv) *Internal & general choice have been provided in some questions.*
N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

বিভাগ - ক (পাঠ)

1. **নিম্নলিখিত অংশটুকু ভালো করে পড়ে প্রশ্নগুলোর উত্তর লিখঃ-**

আধুনিক সভ্যতার মারাত্মক অবদান কালব্যাধি "এডস্" এই "এডস্" এর নাম শুনলে বিশ্ববাসী ভয়ে কেঁপে ওঠে। আগে মারণব্যাধি ছিল "ক্যানসার"।

"এডস্" রোগটি হল এক ভয়াবহ ব্যাধি। ইংরেজিতে লেখ হয় AIDS , পুরো ব্যাধিটি হলে Acquired Immuno Deficiency Syndrome। 'এডস্' এর উৎপত্তি সম্পর্কে নানা মতবাদ প্রচলিত শোনা যায়। আফ্রিকার বিশেষ এক প্রজাতি বানরের রক্ত থেকে এই রোগ সারা বিশ্বে ছড়িয়ে পড়েছে। আফ্রিকার এক আদিবাসী নিগ্রো গোষ্ঠীর ধর্মীয় উৎসবে অসংখ্য বানর বধ করে তার রক্ত শরীরে মেখে, খেয়ে নেয়। এই রক্ত শরীরের মধ্যে বিষক্রিয়া সৃষ্টি করে এডস্ রোগ সৃষ্টি করে, সাধারণ ভাবে যেটা জনা যায় তা হল 'এডস্' রোগাক্রান্ত ব্যাক্তির রক্তের বিষাক্ত দুষণের কলেই এই রোগের উৎপত্তি।

সারা বিশ্বের চিকিৎসা বিজ্ঞানীগণ এডস্ নিয়ে ব্যাপক গবেষণা করেছেন। তারা জানতে পেরেছেন ভাইরাস এর মাধ্যমেই এডস্ রোগের সংক্রমণ ঘটে। মানুষের শরীরে যে T কোষ আছে, এডস্ এর ভাইরাস সেই T কোষ কে অবিরত আঘাতে বিপর্যস্ত করে ফেলে, কোষগুলি দুর্বল ও বিষাক্ত হয়ে যায়।

নীচের প্রশ্নগুলির উত্তর প্রায় '5' থেকে '20' টি শব্দের মধ্যে লিখঃ-

(i) আধুনিক সভ্যতার মারাত্মক অবদান কী ? 1

(ii) 'এডস্' এর আগে মরণ ব্যাধি কোন রোগ ছিল ? 1

(iii) 'এডস্' রোগটি আসলে কি ব্যাধি ? 1

(iv) ইংরেজিতে 'এডস্' এর পুরো নাম কী? 1

(v) ইংরেজিতে সংক্ষেপে 'এডস্' কে কী ভাবে লেখা হয়? 1

(vi) বিশ্বের কোন দেশ থেকে প্রথম এই রোগের উৎপত্তি হয়। 1

(vii) আফ্রিকান কোন আদিবাসীদের শরীরে প্রথম এই রোগের সৃষ্টি হয়? 1

(viii) মানুষের শরীরে যে কোষটি 'এডস্' এর ভাইরাস আঘাত করে তার নাম কী? 1

(ix) বিপরীত শব্দ লিখা 'দুর্বল' 1

(x) ব্যাসবাক্যসহ সমাসের নাম লিখ - রোগাক্রান্ত 1

বিভাগ - 'খ' (রচনা ও নির্মিতি)

2.   নিম্নলিখিত প্রশ্নগুলির উত্তর 150 থেকে 200 টি শব্দের মধ্যে লিখ

(a)   রচনা লিখঃ- সময়ের মূল্য (Value of Time)

অথবা   **6**

(b)   সিনেমা দেখার সুফল ও কুফল সম্বন্ধে তুমি ও তোমার মা / বাবার মধ্যে একটি আলোচনা কথোপকথনের মাধ্যমে কর।

3.   নিম্নলিখিত প্রশ্নগুলির উত্তর 50' টি শব্দের মধ্যে লিখঃ

(a)   মনে কর তুমি জয় / সোমা, তোমার বিদ্যালয়ের রজত জয়ন্তী (Silver Jubilee) উপলক্ষে তোমার রাজ্যের শিক্ষামন্ত্রীকে প্রধান অতিথি হবার জন্য একটি আমন্ত্রণ পত্রের খসড়া কর।

অথবা   **4**

(b)   অশুদ্ধি সংশোধন বা সম্পাদনা করঃ-

বিদ্যা বিনয় দান করে। প্রকৃত বিদ্যালাভ করলে মানুষ মূর্খ হয়। মানুষ ডিগ্রী দিয়ে বিদ্যার পরিমান করে। আঁর ধারণা ডিগ্রী থাকলেই সে জ্ঞানী, প্রশ্ন মুখস্থ করে পরীক্ষায় পাশ করলে যথেষ্ঠ জ্ঞান হয়। প্রকৃত বিদ্বান যিনি তিনি অধ্যয়নকে সাধনার ন্যায় গ্রহণ করেন না। চাকুরীর জন্য আমাদের অবশ্যই ডিগ্রী লাভ করতে হবে না, কারণ বিদ্যা অমূল্য সম্পদ নয়। জ্ঞান অর্জনের সঙ্গে ডিগ্রী লাভের কোনো সম্পর্ক আছে।

বিভাগ - 'গ' (ব্যাকরণ ও অনুবাদ)

4.   সমাস কাকে বলে পুরো ? উদাহরণ দাও।   **2**

5.   ব্যাস বাক্য সহ-সমাসের নাম লিখ।   **3x1=3**

(i) ছেলেমেয়ে, (ii) নীলশাড়ি, (iii) দশভুজা।

6.   শব্দালংকার কাকে বলে ?   **2**

7.   উদাহরণ সহ সংজ্ঞা লিখ । বক্রোক্তি অথবা স্বভাব্যেক্তি   **3**

8.   নিম্নলিখিত বিশিষ্টার্থক পদগুলির দ্বারা বাক্য রচনা করঃ   **2x1=2**

(i) ইঁচড়ে পাকা,   (ii) ওষুধ করা

9.   বাংলায় অনুবাদ করঃ-   **3**

All the great men have been successful. They are remembered for their   great achievement. But it is certain that success comes to those who are   sincere, hardworking, loyal and committed to their goals. Success has been man's greatest motivation.

বিভাগ - 'ঘ' (সাহিত্য)

গদ্যাংশ

10. বিড়ালের মতে ধর্ম কী ?   **1**

11. গুরুচরণ যে গ্রামে বাস করতেন সেই গ্রামটির নাম কী ? তিনি কত টাকা পেনসান পেতেন?   **1+1=2**

12. পল্টু কে ? তার কী রোগ হয়েছিলো ?   **1+1=2**

13. "তেলা মাথায় তেল দেওয়া মনুষ্য জাতির রোগ" - কোন পাঠের অংশ? লেখক কে ? কার উক্তি ?
                                                                                 1+1+1=3

14. ইংরাজি 'Value' শব্দের অর্থ কী ? 'সহানুভূতি' কোন মূল্য বোধের আওতায় পড়ে ? দুটি নৈতিক
     মূল্যবোধের নাম লিখ ?   **1+1+1=3**

15. (a) খেমটার নাচ কী ?   কারা এই নাচের আয়োজন করেছিল ?   সেখানে নাচ দেখতে কে গিয়েছিল ?
     কোন পূজাতে এই নাচের আয়োজন করা হয়েছিল ?   **1+1+1+1=4**

অথবা

(b) "মঙ্গল মারকেশ । তিনি রুষ্ট হইয়াছেন" - কার উক্তি ? মঙ্গল কে ? উক্তিটি কাকে করা হয়েছে?
                                                                         (1+2+1=4)

16. নিম্নলিখিত প্রশ্নগুলি থেকে যে কোনো একটি প্রশ্নের উত্তর লিখঃ-

(a) মূল্যবোধ শিক্ষা আমাদের কোন প্রয়োজন সাধন করে?   **5**

(b) "থাম । থাম ! মার্জার পন্ডিত তোমার কথাগুলি ভারি সোশি মালিস্টিক" -

     (i) কোন পাঠের অংশ ?   **1**

     (ii) কার উক্তি ?   **1**

     (iii) লেখক কে ?   **1**

     (iv) 'মার্জার' কথার অর্থ কী ?   **1**

     (v) "সোশিয়ালিস্টিক" কথার অর্থ কী ?   **1**

(c) 'মানুষের মন' গল্পটি কার রচনা ? নরেশ ও পরেশ কারা ? পাঠ অনুসারে নরেশ ও পরেশের চরিত্রের
     বর্ণনা দাও ।   **1+1+3=5**

পদ্যাংশ

17. 'রূপাই' কবিতাটি কার লেখা ?   **1**

18. "বাংলার মুখ আমি দেখিয়াছি" কবিতায় উল্লেখিত দুটি পাখীর নাম লিখ ?   **1+1=2**

19. "এই রণভূমে বাঁশীর কিশোর গাহিলেন মহাগীতা" - কোন কবিতার অংশ ? কবি কে? 'বাঁশীর
     কিশোর' কাকে বলা হয়েছেয়   **1+1+1=3**

20. (a) "জারীর গানে তাহার গলা উঠে সবার আগে" -

শাল-সুন্দী-বেত যেন ও সকল কাজে লাগে" - জারীর গান কী ?   কে জারীর গান করে ?   শাল-সুন্দী

কী?   **1+1+2=4**

<p align="center">অথবা</p>

(b) "শ্যামার নরম গান শুনেছিল একদিন

অমরায় গিয়ে-

   (i)   শ্যামা কী ?   (1)

   (ii)   কে অমরায় গিয়েছিলো?   (1)

   (iii)   'অমরা' কী ?   (1)

   (iv)   কেনো সে অমরায় গিয়েছিলো ?   (1)

21.   নিম্নলিখিত প্রশ্নগুলি থেকে যে কোনো একটি প্রশ্নের উত্তর লিখঃ-

(a) "মানুষের নারায়ণে তবুও কর না নমস্কার" - কোন কবিতার অংশ ?   কবিতাটি কে রচনা করেছেন?

'মানুষের নারায়ণে' বলতে কবি কী বুঝিয়েছেন?   **1+1+3=5**

(b) "যদিও রূপা" নয়কো রূপাই

রূপার চেয়ে দামী -

   (i)   কোন কবিতার অংশ?   **1**

   (ii)   কবিতাটি কোন কাব্যগ্রন্থের অন্তর্গত ?   **1**

   (iii)   কবিতাটি কার রচনা ?   **1**

   (iv)   এখানে কার কথা বলা হয়েছে ।   **1**

   (v)   রূপার চেয়ে কে দামী ?   **1**

(c) "কন্ফুসিয়াস? চার্বাক চেলা ? বলে যাও, বলো আরো" - কোন কবিতার অংশ? কবিতাটি কে রচনা

করেছেন? বাংলা সাহিত্যে কবিকে কী নামে অভিহিত করা হয়? কন্ফুসিয়াসের পরিচয় দাও?

                                                       1+1+1+2=5

<p align="center">কথাসাহিত্য</p>

22.   টগর কে ? টগরের সাথে শ্রীকান্তের কোথায় দেখা হয়েছিল?   **1+1=2**

23.   "ওই দেখুন ভাঙ্গা হাঁড়ি, ওই দেখুন বিছানাময় তার রস" - কার উক্তি ? কাকে করা হয়েছে? এখানে

কিসের রসের কথা বলা হয়েছে ?   **1+1+1=3**

24. (a) অভয়ার বাড়ী কোথায় ?   তাঁর সঙ্গীটির নাম কী ছিল ? অভয়া কোথায় যাচ্ছিলো? অভয়ার স্বামী

কোথায় থাকতো এবং কী করতো ?   **1+1+1+2=5**

<p align="center">অথবা</p>

(b) কেরেন্টিন কী ? যাত্রীদের কেনো কেরেন্টিনে রাখা হয় এবং সেখানে কী করা হয়?   **(2+1+2=5)**

<p align="center">********************</p>

2023
TENYIDIE

Total marks : 80   Time : 3 hours

General instructions:
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 20 main questions. All questions are compulsory.*
iii) *Marks are indicated against each question.*
iv) *Internal & general choice have been provided in some questions.*
*N.B: **Check to ensure that all pages of the question paper is complete as indicated on the top left side.***

SECTION – A (Kesi Mhaphrü)

1.   **Thedze hau phrülie di ketso kebako kelashülie:**

Thiedzü u niedimiako u kevi kekra nyi, dietho, shürhei, u nou cha, mhatho kehoupuorei chüketuo nu pesiepedzü le, huoniehuo khrie, mha kezha chü nyüsie-i, diemo pu michie mu u Kepenuopfü preisie-i di lhou vor. Thiedzü rei themia kesuo kro puo tuo zo, derei miakrau vi, süla seyie kevi puo üdi mia u puya. Seyie kehoupuorei miakrau vi ba ro seyie süu seyie kevi puo üya mu miakrau suo ro seyie süu üse seyie kesuo ütaya. Thiedzü kelhouko u nuonuo bu u nhicu nunu kenyü mu menga ikecüko si kemecütou se tuotaya. Kenyü üyakezhako chü ro terhuomia morei Ukepenuopfü the pesuowate, Ukepenuopfü u pechü tuo isikecüu, mu menga ikecüu liro themia mhodzü kekrüketa, kelhouzho-u medzi moketa cau. Dieca hanie se pecükecü la lhou kerieko üse vi üdi puya, themia kenyü ikecüu mu kemenga si moketamia mhakipuorei themia kevi chülie kenjü zo. Thiedzü mhasi jü süla thenyie kehoupuo nu rei dieu se di mha pepi mu pfhetseipfhekho chü vor, mu pepikelieu morei pfhekho dieu mhakipuorei rükra motaya mo morei meda reitaya mo.

Thiedzü kelhouko kecükekrie nu mu kechükelie nu kemezhie phi di lhou, derei kelhouzho nu ketheguo phi. Thie kelhoumia kecükekrie nu mu kebakezhü nu siro kemeduonya doneiüko se di lhou ketheguo phite, derei kelhouzho nu mha kesuoko keda se di lhou ketseinyü zhüte mo ki shi? Mha kesuoko kedata mo di thiedzü u krü zho keviko selie mu mhanyamhara keviko mu pfhemenei keviko selie mu kezevi di lhou ba ro kidepuo ketheguo mu seyie kekrei bu rei u mehoutie shi.

   Ketsokeshü:
   (a)   Kedipuo la kenyü icüu prei morosuotaya ga?   **1**

(b)	Thiedzü kedipuo pie theshiethenyieko pepiya ga?	**1**
(c)	Thie kelhoumia kimhie di lhou ketheguowalie vi üsi ga?	**2**
(d)	Terhuomia mu Kepenuopfü the pesuo puoca kedipuo ga?	**2**
(e)	Thiedzümia kedipuo la miakrau vi üya ga?	**2**
(f)	**Dieca hau puoca thushülie:**	**1**

  • Pfhetseipfhekho

(g)	**Dieca hau kepetsou dieu thushülie:**	**1**

  • Kekra

SECTION – B (Thedze kezo)

2. **Hanie puo (1) kedapie dieca 150-200 mese nunu thushülie:**
   a. 'Puotei se sikecü' (Punctuality) icü cayie hau geinu ese thushülie.

   Moro   **6**

   b. N zemia mia dia phere n ki nu vor ba, nieko keze midzü (fuel) ma hekeshü
   geinu mhanyamhara pete puoma heketa la nieko nounyü di kerüchükeba,
   nieko rüchüdieu (dialogue) thushülie.

3. **Hanie puo (1) kedapie thushülie:**
   **a. Hau pekhrotsa thupie kebau phrüshü di khune kemhiekecü (copy-editing)
   chüshülie:**

   U tsiepfumia kicükiri perikecü ha se uko mhatho kemeyietho puo
   chü vor ü kecü we silie kekreilamonyü ukoe Hedzümia kitsa kelhou teiki rei
   kicükiri tese vo thegi lilikecü dze silie. Siro uko hedzümia kitsa nu tuo chinmia
   kijü pfüthe ketsur teiki zo rei ukoe uko kicükiriko la va puo chü ta pechie seta
   mo di rülili di ta rüyie ketsur dze seiya. Siro ukoe nanyüko nu khunuo se ruo
   tho ruorei kechü mu sü rübei zomonyü khunuo zhie se ruosuo kechü rei ngulie.
   Therieki ukoe kiri kicüpuopuo se shi rei vor menuo kiri kemeyietho chüketa sü
   mithou zo. Kicükirei ha pie kiülie sieso chü di lhou vor zo. Mia puoe puo kiri
   phrü di puo kinyi phrü vor. Süla themo ha u kecüca kemeyietho puo. Nacü
   nanyü pete nu rei kiri dukhripie theprie chüya.

   Moro   **4**

   b. N puo n zuo unie-e kerikelie teicie 25 keta la n kenei nu unie la thehe puo
   keseshütuoü ba. Süla hau pemvü di kethezhokecü phreikie puo thupie n
   kikruko tsüshü di uko bu vor hie nukecü die dieca 50 mese nunu thushülie.

SECTION – C (Diezho)

4. **Hako chatha khakeshü medzi di kelashülie:**

(a)	Puo tier pie a tsü kenheshü. *(Zanyau rhieshülie)*	**1**
(b)	Balie bu puo vüwate. *('puo'dieca hau diezanyie kiu nu ba ga?)*	**1**
(c)	A phikou kekra puo ba. *(Kevikesuo chiekeshü dietso-u rhieshülie)*	**1**

(d)   Dietho zatse kitsuo ba ga? **1**

(e)   Themia hau uko ki ketho-u pu ba zo. *(Zamho-u rhieshülie)* **1**

(f)   Uko kepuko puorei ketho mo. *(Kezakeshü zasou rhieshülie)* **1**

(g)   Uko u nuo u tse ba phre. *(Kezakeshü dietso-u rhieshülie)* **1**

(h)   Puo seibo geinu tetsu. *(Diepeu rhieshülie)* **1**

(i)   Supuo die pu ba ga? *('Supuo' hau pie miakra dieza nu thushülie)* **1**

(j)   Ungo pfhephra puo pie diecha chüshülie. **1**

(k)   Nieko sodu nieko leshüda pfü phre vorlie.*(Puotei diabau rhieshülie)* **1**

(l)   'Ketsamia' dieca hau pie thenumia zakie nu thushülie. **1**

5.   **Hakhro kebau Tenyidie nu thuyie chüshülie:** **3**
All the great men have been successful. They are remembered for their great achievement. But it is certain that success comes to those who are sincere, hardworking, loyal and committed to their goals. Success has been man's greatest motivation.

SECTION – D (Diemvü)
Thedze

6.   Vitsonyü kedipuo khrü se vo puo niapfü tsüshü ga? **1**

7.   Kedipuo la ngumvükoe Kedisenyü dukhriwa molie kenjüta ga? **2**

8.   'Mechü die' sü kedipuo ga mu kedipuoe krütamia kekuou ga? **1+1=2**

9.   Tenyimia nacünanyü chükecü nu mha kemeyietho se pie uko bode chücüiko kiko ga? **3**

10. U tsiepfumia kimhie di rüna nasa tshe paya üsi ga? **3**

11. **a.** Virünoumo mu Keviphuü unie huoniehuo gei rünoumothorkecü zasi kicü kro puo chüpie pekieshü ga?
                           Moro **4**
   b. Tenyimia kimhie di vitho pebaya shiü pede di thushülie.

12. **Hako donu puo (1) kedapie thushülie:**
   a. *"He-i, a nuo bu rünoumo ketho chü tuote. A nuo nei sü hie rei hie medo zo mu ru le"…*
     (i)   Diecha hako supuoe pie supuo ki pu ga? **2**
     (ii)   Kedipuo la puo nuo bu rünoumo tuoketa pu ga? **2**
     (iii)   Suomia ngukeshü geinu diecha hako pu par ga? **1**

   b. Vitso rünapeyu-u Kedisenyü se nhie zhapu kechü cayie pengou thushülie.

c. Dielou 'krü' mu 'ta' hanie vatshashülie. **2+3=5**

Geizo

13. 'Kenei Kekra Ki Ketho Yopuo Vi' icü geizo-u nu suomia üse ketho ca yopuo rei silie reya üdi pu ga? **1**

14. 'Kelhoumhasi' geizo-u nu ükezo-ue kedipuo pie cabo chü di zoshü ga? **2**

15. **Geizo diecha hau puoca vatshashülie:** **3**
    Mhale pejü teirüteikhrie prei,
    Thaluocü nu khriesa keviko;
    Takewhuo se nie siepie zote.

16. **a.** *Kepenuopfü nhamenyiepounuo,*
    Rütso thuo rei chü kezivishü –
    Kezha tuoi themianuo ha bu,
    U kepou se zhapu chütuoü
    Kepenuopfü nei chülie thienyü.
    (i)   Supuo geizo hau zoshü ga? **1**
    (ii) Themianuo kelhou tei kiu se vo nhamenyiepou kepou ze kemejüshü ga? **1**
    (iii) Ükezopfü suomia bu kimhielie nu puo va melo ba ga? **2**
    ### Moro
    b. 'Kelhoumhasi' geizo-u nu kelhou tha kekreikecü diako thushülie. (4)

17. **Hako donu puo (1) kedapie thushülie:**
    a. 'Thenupfü Kelhou' geizo-u nu ükezopfüe thenumia rüli dze kimhiecü kro puo pushü shiü pede di thushülie. **5**

    b. *Zoshü puo di hie krü hie pfutsa,*
    Chü kethako kerheiro ha chü,
    Pecha zopie rüna rütso chü,
    Lashü puocie N medo üro.
    (i)   Diecha hako geizo kiu nunu se par mu supuoe zoshü ga? **2**
    (ii) Ükezopfüe Kepenuopfü ki kedipuo cha ba mu kiüdi ga? **3**

    c. 'Kenei Kekra Ki Ketho Yopuo Vi' geizo-u nu u meda kesuomia zhorüli dze kimhiecü kro puo pushü shiü pede di thushülie. **5**

Noudo Dze

18. Neitseizo nuoyo za supuo ga? U nuoyo kedipuo se chüta ga? **1+1=2**

19. Neituonyü kilonser chükelie sie mechüu bu puo la kikemhie di kemezhieta ga? **3**

20. **a.** Kepenuopfü khrüprei nu lhouyakezhamia theja pfüya ücü Ruopfükhrielie se thakie chü di kepushülie. **5**

Moro

b. *"Vüwalie, vüwalie unie pethaphrüshüyi", chü pheshieta.*
   (i)   Suomia die hau pu ga? (1)
   (ii) 'Unie' sü suomia pu ba ga? (1)
   (iii) Kedipuo la unie vüwa mu unie vüpie kimhiewata ga? (3)

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2023
SÜMI (SÜTSAH)

Total marks : 80   Time : 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii)   *The question paper consists of 22 main questions. All questions are compulsory.*
iii)   *Marks are indicated against each question.*
iv)   *Internal & general choice have been provided in some questions.*
N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

KOKÜPHA – A (Akiphi)

1.   **Hi aqhou yehpüakeu akivishi phino iniju akeu khochile lo:**

Aphuh lakhilo timi asachu aghamino vesümla kemi Tungkupumi thive hauve aye pa kumo lo aghami ayina, timi lhoxü kumtsü no akumo miyetsü niye ighipu amulo ghimeshi qah mulo ake lo tumumi kümtsa akivishi aküsau aposhushi xuache kemi tile ighi aye züle no pai khavi lono thiakeu kumo phivelo ighipu jusütsü ake lono züle no koi illuqivepu mutazü axah shethuve nani.

Oh! Küxümi qo itsah hi initsü lo ipipu atumuu paxa akughoki lono atsüu no küpütsake toi pama küpütsa keu hu akithi kumo lo ngo akemi no chilu nani. Ike kithimi sahu alah lo phe ani ipi ithiveche ke, tishipu akithiu no hilau küxümi ye kiu shimo aye sake no ghutu puwo nani. Tilehi akichiqhi kepu akeu ye timi khiu no axashe anikeno pa, li kichi kulo/laimu ithamo nani, tishipu akughoki alou no asütsa akichi, kulomo no ipeghi nani. Tishi pama küpütsasü kithilau huvepu ashekha loye atumuu no akithiu vilo "Oh! Niye hinguno hilau ye o sasü humlake tishi ile no wo lo" ipi kinni vepu atsüveshe ilhe ida ithughive nani.

Ike sahu pheke lo ado kushuwa luveche ipi hilau atsüu mino pa, li no pai ida ithughimove aye amllo saveche, tipa ghuloki lo atumuu hu athuthu shemove ketoi inaqhoive nani. Eno amllo likhi no kititi itha anani, tipa ghulokilo kithimi no aküxümi vilo kiu shimo aye sake no tsütsala pa küxü lono pimlavekeu tsah qo qhoi kishekulushi pipuwo venani.

Ike tipau kiqi lono küxümi no kiu shimo aye sake no thwokha shikupuvetsü nani, hiye kithixashe kithikupu kumoke ikemu kithila lo sahu pheu keuke.

(a)   Kiu shike lono hitoi keu chineh chini shi che kea?   **1**
(b)   Kiu kishi axashe thuve che kea?   **1**
(c)   Ashekhalo atumuu ye akithiu vilo kishi piche kea?   **1**
(d)   Tumumi ngo kithimi küpütsa kelo akithi kumo lo ngo akemi no kiu ithiveche
       kea?   **1**
(e)   Kithimi ye küxümi lau kiu tsah pipuwu che kea?   **1**
(f)   Kithimi sahu phekelo ado khije luche kea?   **1**
(g)   Atumuu no kithimi sahu pheke lo akhichiqhi kepu ye kiu kea?   **2**
(h)   Hipaqo ye kuu kea?   **1+1=2**
       (i)   Atumuu   (ii)   Axashe

KOKÜPHA – B (Akiye)

2.   **Lakhi likhi yelo atsathi 150-200 dolono. Ghili kiye.**
      a.   Ghili kiye: Lhoxu kipighi mekua
                               Momu   **6**
      b.   Aküküptsa (Dialogue writing): Oküsau noküjo cell phone peitha keu vechewo
                lhothemiqo kishi shipusave ani keno küpütsa keu yeh lo.

3.   **Hikuma dolo lakhi yeh lo:**
      a.   Yehkümzü (Copy editing) Apuh-assü loye khile no atusa zü aghinike no tile
                paghi azü khepuchomi kiu ghengu azü kiviye atsesa züke ipi ipi lezole kutomo
                lono pheche ghike azü kikhe lo pujosu chemo azu kikhelo basü chemo
                tughüthiveke lo ou kümsa no azü shope ye chemo kitiqeve keu shin go apunu
                bolo phi-mini ishi hipaqoye azü kikhe lono glumo momi ishimo hani itaghi
                timijibuve keu züta angu ye azü kikhe lono sa momu qhuchemo kipitimi
                totimi azü kikhe huu no puka salhave aye kitiqeve ipipu azü hau ilove che.
                               Momu   **4**
      b.   Kuküsü: Noye Itsali/Itsato. No phuh lo noye kiphimi küqhakulu lo Akiyetou
                (General secretary) tughalo chekemi kümtsü ighino nno kiphimi mpetsü
                küpüghü lo ighino süpenike küküsü yeh lo.

KOKÜPHA – C (Tsayeh eno Pekibide)

4.   **Jeshe achipiu pe atsajoh kümsalo shepichi tsülo:**
      (a)   Khashiye tsütsüghu _____ ighimoe.   **1**
      (b)   Tughakhani ye apine dolo atsala _____.   **1**
      (c)   Vimokemi _____ ghime kepu.   **1**
      (d)   Kiutoi _____ kela!   **1**

5.   **Atsajo küqü akeu shikümzü tsülo:**
      (a)   Khashi mpe kithe kukughu lo aje ani.   **1**
      (b)   Pükükami akito lo aye ahi aphiko lo aketoi.   **1**

(c)	Angu no angushuu che.	**1**
(d)	Alephemi akukuho lo ighi vea.	**1**

6.   Sülekutho hipaqo kiqi yeh lo:

(a)	Akhakhu lekiphe	**1**
(b)	Acheahe	**1**
(c)	Amqha lo küzü wudu	**1**
(d)	Ane no sho	**1**

7.   Sümi tsahlo pebide suvelo: **3**

All the great men have been successful. They are remembered for their great achievement. But it is certain that success comes to those who are sincere, hardworking, loyal and committed to their goals. Success has been man's greatest motivation.

KOKÜPHA – D (Tsaiko Küghakiche)

8.   Khuno no phuh lono athu kuchu huthu phe tsü kea?   **1**

9.   Dalini ye khuu kea? Li kithi-a pesü kiu picheni kea?   **1+1=2**

10.   Aghawu litcheh, akha kükha eno ashihah lo alelu kiu toi kije che kea?   **2**

11.   Gen. Kaito Sukhai ye khunno ppu eno paye kughono punu kea?   **1+2=3**

12.   Appu kalalishi nipu je ye khuu kea? Paye ampe khije thikhauno zü ida
ithughi kea?   **1+2=3**

13.   a.   Nagami Khristo yelutüghiu je khuu kea? Naga Hills lo American
**   Missionary mi ighi tüghimiqo je yeh lo.**   **1+3=4**
                                    Momu
**   b.   Lora Raja ghushimi no Joymoti ghimeqhi keu ghili yeh lo.**   (4)

14.   Hipaqo dolo lakhi (1) yeh lo: **1x5=5**
**   a.   Gen. Kaito eno Gen. Mow pamu no London lo ngo akelo kümsüma kumlapu**
**   kümlah hami shilu keu ghili yeh lo.**

**   b.   *Highi ighütsü qah, isukighelah,***
**   *Iyeh kighelah, eno ikighithiqah.***
(i)	Atsah hiye khuu no pi keu kea?	(1)
(ii)	Khuu no khuu vilo pi ani kea?	(1)
(iii)	Kiu shiche kelono pi keu tsah kea?	(1)

(iv)   Khunno kughakiche lono iniju ani kea?   (2)

c.   Kushiye Hebo ngo chisho pama dolo kimithikile che kea?

Leshe

15.   Viyishe Naghutomi nno ppu je khuu kea?   **1**

16.   Tüghünakha kimi je ye khuu kea? Khuno pa yive kea?   **1+1=2**

17.   Anulikishimi leh ye khuuno she kea? Kiu ghenguno lesheu ye anga Yekhuli
       külapuwu nike lo pa mulo ime ve kea?   **1+2=3**

18.   **a.**   *O yesukha no no ye sapu kixi no*
                 Shimhi shi pokha,
                 O hoishe ana kimiche punoghi ishehe,
                 No zuta lekupu hi pesu ayina
                 Khigha cheila.
                 Khunno leshe no pi ani eno kiu pi ani keno mütsümishei hepho tsü
                 lo.   **1+3=4**

Momu

       b.   Viyishi Naghutomi ye khuu kea? Pa ye kiu shive kea? Khilau no
                 aleh hipau shi puwau kea?   (1+1+2=4)

19.   **Hipaqo dolo lakhi (1) yeh lo. Khuno leshe lono piani keno mütsümishei**
       hepho tsülo.   **1x5=5**

       a.   *Alukichi paju knheshu chewo,*
                 Tiye nilu kumoye ipuh nono luye,
                 Punu kishimi no ilu ghüza kivi,
                 Lukha aye lukupuwo,
                 Shoinapu tsüna yemoye.

       b.   *Iluh kuccho aye, moh chehu juno,*
                 Ighoh ilou kisheh cheni keno,
                 Pinaimu Ni ye apuh-aza kishimino,
                 Kutotsüh ye ni lotsüh no akivi philuni chemo ye.

       c.   *Atsala ghi tixi tsala kishi lono,*
                 Supha no pu akinino xishi,
                 Aghino who ye akithi no kulu kiphe
                 Anishi wu ala.

Lotsüh Kiye

20.   Lhophekitthekütsüu ye khuu ghili kea? Pa ye kiu shi che kemi kea?   **1+1=2**

21.   Salem lo akükau je ye khuu kea? Appu no kiu phuche ke lono akükau sasü kusholu
        kea? Appu no phuche keu thime ye khile ani pi kea?   **1+1+1=3**

22.   **a.**   Appu ye ado khithohi shive kethiuno Africa yeghi qhiveno idechile
                wove kea? Apu no alhikishi kilo mula kelo kiu toi mülalu kea?
                Amipeu ye alovilu kema? Pa gholo ngo kelo paye kiu kiu nhemgha
                qelu kea?   **2+2+1=5**

Momu

        b.   *Niye itehi ye o lau ame khumoe ikemu nono küsüpüa keu kinni khuki phulu*
                aye chighi lo saje lakhi ye iw ke.

                (i)   Atsah hiye khuu no khuu vilo pi ani kea?   (2)
                (ii)   Appu ye kiu ghenguno atsapiu sasü kusholu kea?   (2)
                (iii)   Appu no atsapiu sasü kusho kelo achebo alou kiu jutho aghi kea? (1)

                ****

2023

AO

Total marks : 80   Time : 3 hours

General instructions:

i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.

ii)   The question paper consists of 20 main questions. All questions are compulsory.

iii) Marks are indicated against each question.

iv)   Internal & general choice have been provided in some questions.

N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

SECTION –A (Züngang aser langzüang)

1.   **Agüja aliba olenji jungjunga züngang aser tasüngdangbatemji langzüang:**

Kenü anogo putir ana yimti ka ajanga oyaa liasü. Tena jakdangji tetsür ka sentsüprang süoshi semer, lenmangji ajangdanga moteti noktaka liasü. Kechiyong tzünglu aruba ajanga lenmang ajungaji lishi motzü agi sünga liasü.

La lenmang ajangdanga motetba atemaji, lar kilir den osü tamajung agi sashisashia raraa kangkokangjia ayimayima lai jembibaji tenati angu. Putir rongnung tambusang jagi tetsürlaji pa terongdong nung süloka punger lishi aser motzüji ajanga or lenmang külenji yutsü. Tetsür jagi pelar ta ashitsü melena, putir tambusangji tiluja menütsür parnok pilaa ao.

Tena jajayonga aodang, putir tanubusang mulungjang animesüngzükteti tawaktsü atuba agi sünga aküm. Mapang talangka jajar külen, pa mulung nung bilembaji mejembi melitet nung putir tambusang dangji yamai ashi, "anati ajuruba tetsürla jakla to rarabangsen aser maakmanü agi sünga liaka nai la aria bilema punger oa yutsü". Aser nai yamaji yariaka ne dang, 'kanga pelar' taa mashi. Idangji putir tambusangi yamai langzü, nibo la to gondha ishika tejaklen kü rongdong nungi salazüka yutsür arur sürnung nabo ano tang tashi la punger jajar na?

Israel nunger otsü ya raraba otsü agi sünga lir. Talisa tejen lai otsüren ya teimba ka raraba indang lir. Mosai anir rarayonga tenangzükba lima bushi. Aser iba rara tanü tashi Israel nung manener.

Israel nung mezüngbuba chubaji Saul liasü. Pai anir Israel temeranger sepaitem Filistia nunger den raratsü tashi kisüng agi dangbo makokla asoajen kanga tulu sepai walunir ka liasü. Saka tematiba tsüngrem dak amanga Dawidi Goliat den rara aser alima anokshia alinung Goliat mereptaka laodaktsü aser pa

kolak tangzük. Naga nunger aikati, "Naga nungerji tekolak bushiba kin mesüra tekolak atanger kin liasü" ta kanga tiyaksanga jembir, alima nung shinga kinia meinyakdang ama.

Goliat tepsetba atema, khonang naroküm jenti Dawid nem agütsü. Dawid asoshibo Goliat tepsetbaji tongpang tatembang kati aru. Saka Saul chuba asoshibo ibaji tenük meremba tongpang ka tenzüker ka aküm. Saul taküm aliba tepiyong iba nük merem tongpang jagi neneter, taso mashi lir, maaksü nung laoa taküm tembang. Kechiyong pai Dawid dak tenük merembaji salazüka metoktsütet.

Tasüngdangbatem:

(a)	Putir ana jagi yimti ajanga aodang kechi tensa ka ajuru?	**1**
(b)	Tetsürji shibai koma yari?	**1**
(c)	Koba olen ajanga putir ka dak taremzük aser tesüngjem makaba indang sayur?	**1**
(d)	Israel nunger otsü kechi agi sünga lir?	**1**
(e)	Goliat-ji komala walunir ka liasü?	**1**
(f)	Dawidi Goliat den raradang shiba dak amanga liasü?	**1**
(g)	Naga nunger aikati koma tiyaksanga jembir?	**1**
(h)	Saul chubai kechi salazüka metoktsütet?	**1**
(i)	**Itemi ojang teratet agüjang:**	**1+1=2**
	(i) Tikaysang (ii) Walunir	

SECTION –B (Olem)

2.   **Agüja aliba ana rongnungi ka shimteta ojang 150-200 shi nung langzüang:**

a. 'Senso tajung ka aser pa teinyaktsü' onük nung otsünu ka züluang.

Mesüra   **6**

b. Temesepba chiyungtsü ajanga shisaliok nung timtem adokdaktsüba tebilemtsü ner medemer nena tsüngda shisa lemsatep ka züluang.

3.   **Ana rongnung ka shimteta langzüang:**

a. Jilushi nükjidong terepramger nüm nükjidong ka yor aji angatetdaktsütsü atüma lir. Jilushi jagi kechi shinür, iba osangji jilu aedangji metettsü. Jilushi nong nükjidong ka tang masü saka talea alitsü akok. Nükjidong balala shiaji kati ka dük sentaktepa yanglutsü.

Mesüra   **4**

b. Na Tiaba, Ao Senso Telungjem nung tongti zülur. Iba telungjem küm 25 jubilee ajungba sentong nung adentsü jayu ka tesüiba lenir kar dangi züluang.

SECTION – C (Orrlem)

4.   **Itemi langzüang:**
    (a)   Pukhümna teratet shiang.   **1**
    (b)   Meyongja nung oren ka yangluang.   **1**
    (c)   Oti teratet shiang.   **1**
    (d)   Semdang *(Rasem, Ralok enokang)*   **1**
    (e)   Meyanglushira. *(Rasem agiteta sayuang)*   **1**
    (f)   Yanglu. *(Timsü nung Rasem aser Ralok enokang)*   **1**
    (g)   Tanurtemi azü chanu ajongshi/ajungshi. *(Ojang shitak shimtetang)*   **1**
    (h)   Jara, jara. *(Ojang sadanga tetezü benteta oren kaka yangluang)*   **1**
    (i)   Azüji kechiba mechiyunger kiburi meteta mali. *(Ibai koba oren)*   **1**
    (j)   Atentep oren tetezü kechi?   **1**
    (k)   Na arudang onoki telok ayongtener alitsü. *(Koba Mapanglem nung lir)*   **1**
    (l)   Taoba mapang kechi dang ajar?   **1**

5.   **Agüja aliba olen ya Ao oshi nung meyipang:**   **3**
All the great men have been successful. They are remembered for their
great achievement. But it is certain that success comes to those who are
sincere, hardworking, loyal and committed to their goals. Success has
been man's greatest motivation.

SECTION – D (Kaketkeno Zülu)
Otsü

6.   Mapaji kechi dang ajar?   **1**

7.   Kechiba Naga nungeri süngkhüm yanglur.   **2**

8.   Aori amshia aruba tim kibalenbubaren ya Kong tenzük aser koma tongtibang?   **2**

9.   Koya aser Meimchir tenangzüktepba kechi aser iba otsü nungi kechi
angazüker?   **3**

10.   Tebur O Tetsür na tesentaktep koma alitsüla?   **3**

11.   **a.** Lalushipongbaji kechi dang ajar? Kechiba tokonglu ayimba ya
rongsen lalushibongba mapa den saku ta züngshir?   **1+3=4**
Mesüra
b. "Akhidang tsüraburi shikiraki inyak" tanü putu shiri aser kechi inyaker
tatsü agi züluang.   (1+3=4)

12.   **Item rongnungi ka (1) shimteta langzüang:**
a. *"Tasungji pa malidang ni item file ka koba nung 'Indoktsü' ta*

temerem agi züla liasü ibaji lapoka reprangdang."
 (i) Shibai shiba malidang iba fileji lapok?   **2**
 (ii) Iba file nungji kechi liasü tatongji ratetjang?   **3**

b. Item indang nai kechi metet tatsü agi rasaa shiang: **2½ +2½ =5**
 (i) Naga Hoho
 (ii) Naga People's Movement for Human Right

c. Mapa inyakdak awashi tamajungtemji kechisa? **5**

Sangro

13. Kechi ozüi Par nokinketertem osang aben? **1**

14. Soreptangrep tetezü kechi rasaa shiang. **2**

15. Kinü tanur dang nung jagi ken mejemer jagi kechisa nükshia aginür? **3**

16. **a.** "Tzümetsüng jagi aben, lenmang nung" shiba dak kechi atalok
   rasaa shiang. **4**

Mesüra

 b. *"Ajaklen takok entsüdang*
   Kolang tokshia jembitep"
  (i) Koba sangro nungi agitet? **(1)**
  (ii) Orentemji rajema züluang. **(3)**

17. **Item rongnungi ka (1) shimteta langzüang:**
 a. *"Tsüngden yamoka kitsüngya mesü,*
   Rongjentsü thatatsü mali."
  (i) Koba sangro aser shibai mejem? **2**
  (ii) Kechiba rongjentsü thatatsü mali ta sangro nungji ashir
     ratetjang. **3**

 b. *"Kinük nung tsüngkotepsü ter kar,*
   Küttsü sünga sünak sürem,
   Shiret, kümbang, ajak peria kar."
  (i) Koba sangro nungi shibai mejem? **1**
  (ii) Küttsü kechi dang ajar? **1**
  (iii) Oren nungji shir akaba indang ashir tekongji rasaa züluang. **3**

 c. *"Ena, asüngji tensentsü joko atongteter lia,*
   Putir jagi ashi;
   Pa dakbo sempet balaka lir?"
  (i) Koba sangro nungi shibai mejem? **1**

(ii)   Olenji kechi densa ka nung putirtemi shiba dang ashi? Otsüji
ratetjang.   **4**

Yimdangjem

18.   "Torotoko, Ningjang chobi ya medem achu ko monger, yarang bana chamiro"
Iba ken tetezü kechi ratetjang.   **2**

19.   Etiben sür külen Jinai kechisa inyak rasaa shiang.   **3**

20.   **a.** *"Kongki amshia Jinai ken tesüngmangtsüka aten"*
(i)   Kongki tenüngji kechi?   **1**
(ii)   Kongkiji koma tongtibang liasü rasaa züluang.   **4**
Mesüra
b. Wasangpong koyimer liasü? Pa dang Etibeni komala jakla sa sayu?   (1+4=5)

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2023
LOTHA

Total marks : 80   Time : 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 21 main questions. All questions are compulsory.*
iii) *Marks are indicated against each question.*
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N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.

SECTION – A (Ekhao)
1.   **Motsü shi khae zesi oküpoe engao jiang janlana:**

Nkolo orae evamo tona kyon to npyonta thüng Apvüho ha mmhorü to oni na zhükhfü pankae wotasi ojen shantacho. Mmhorü ji na, "ojen shiang kvütolyui hanta la?" to Apvüho engale, Apvüho na 'ojen ji kokachio hanle", to mmhorü ji ezoa hantoksiApvüho jo ojen ji chenchio hansi ombo elaro zhükhfü ji pankae chiyicho. Osi mmhorü jijo ojen ji lo ojü rheyio ji tsükona chiyina nchiyiche, chiyina nchiyiche to tssocho. Hoji to mmhorü ji na elümoto ezüpa ojü ji khyinga vanle, Apvüho na "ana ni khichev kalo"to ezoa ojenji lo olong penthechi mmhorü ji ojüi na phfüa jeyithokcho. Jisüi jo Apvüho na jüjowoe jowole mmhorü ji jütsae phfüa jeyia vancho osi ombo na Apvüho ji hungale "a meyamo ji shi' to ezoa Apvüho ji rhümata phancho. Hoji tsükona Apvüho na tsana, tsana oyi orae tssakmhen tssoe elio ji zeta vanle, mmhorü ji na ombo rümvü tssocho. Tole Apvüho "a motsü, ayio zhürochümpoe na ophyang shi ochia ti tümphitokle to a ezoa a nhyaktokala" to mmhorü ji ezole, mmhorü ji na "toka ana tümphi zeta ne?" to Apvüho ji engacho. Jithüng ji Apvüho na "Amotsü toka ana zhürochümpoe jiang owo engae zesi onte na lüm na rünga tssona ni tümphitokvü ka a yivon enga vankhe" to ezoa meta thanpoe na oyi mmhorü ji zechia, " a motsü, zhürochümpoe na ophyang ji tümle to ni ezoala", to mmhorü ji tüngchia tssakmhen tssoe elio ji tümphitoksi otssak jiang khi tüktsüngi chütokcho.

Engao:
(a)   Apvüho tona mmhorü to motsü shijo ntio yuta lo motsü la?   **1**
(b)   Apvüho tona mmhorü to oni na kvülo na ntio elhi tssotacho la?   **1**
(c)   Apvüho na ojen ji kvütolyui hancho la?   **1**
(d)   Mmhorü ji na ojen ji kvütolyui hancho la?   **1**
(e)   Apvüho na ojen ji lo ntio thei mmhorü ji hantokcho la?   **1**

(f)	Tssakmhen tssak shi jo kvütvü lo tssoa la?	**1**
(g)	Motsü shilo mmhorü ji jo kvütolyui chücho la?	**1**
(h)	Mmhorü ji na kvüto phyoa Apvüho rhümata phencho la?	**1**
(i)	**Yitsüng pi elio shiang yichak pia:**	**1+1=2**

        (i)   Kokachio   (ii)   Nkolo

SECTION – B (Eramo)

2. **Oküpoe eni pi elio shiang lo na ni lümcho motsünga yitsüng 150- 200 harüma na erana:**

    a.   **Yiphongran:** Naga meta lo tathi ejüili jiang nkümnfü.

<div align="center">

Mekana   **6**

</div>

    b.   **Thyutasanta/jantasanta shi erana:**

        Oshom otsük eni na limhalo jo –tsüktssen alo, püngnoeden alo, rasanden jiang etho elio sana to thyutasantao ji erana.

3. **Oküpoe eni pi elio shiang lona ni lümcho motsünga erana:**

    a.   **Yiren pi elio shi khae zesi elanchoe eranchoa (copy-editing):**

        Enhungara shilo jo yithankako shi jo ntsinran nzua yiphen lankvü opvu motsunga. Yelhenkako shi yakchia ete na limhatsü yiwon ete liphong yivon osi ete nkonjan topvü lo ntio tsoa osi yia vancho sana hojiang ete kipüngi hansi oyi khatala. Hoji tsükona yithen kako shi jo kyon nzontsü okho jiang ntsiran osi üntsiyan piphan opvü tsotso motsünga.

<div align="center">

Mekana   **4**

</div>

    b.   Choro yithako ji lo ni na zotoro ethan shio ji mvüchoktav tsükona ni shom ji thüngi etsa kako erana.

SECTION – C (Lothayi Nsanlan)

4. **Shiang janlana:**

    (a)   **Yiren jo ntio la? Yiren olan kvüta lia?**   **1+1=2**

    (b)   **Owon tongphia:**

	(i)	Evüngki evan jiang ombo na vachicho.	**1**
	(ii)	Ocho na sana eranphen shi a picho.	**1**

    (c)   **Yitsüng esütao tvü erana:**

	(i)	Emhoka	**1**
	(ii)	Kherüpa	**1**

5. **Etsyuchi epio ji ephan erana/janlana:**

(a)	Sükvü ji tssünga ji _____ vai lia. *(Mhachungyi na pyingtoka)*	**1**
(b)	Onte na etsao ji emathata elonchocho. *(Tepfüyi ji lo sekata)*	**1**

(c) Ana kyon ji mying _____. (Mhechoa) *(Yuta etsüngta elamo khi pyingthoka)* **1**

(d) Ana phyokhokcho alo? *(Ntio eyieton sana pia)* **1**

(e) Yitsüng 'pfütsson' shina tssoyioyi kümtoka. **1**

(f) 'Hayio' yitsüng shi tsütsata Tüngsachioyi nsüngria. **1**

6. **Yiren shiang Lothayi na khophia:** **3**
All the great men have been successful. They are remembered for their great achievement. But it is certain that success comes to those who are sincere, hardworking, loyal and committed to their goals. Success has been man's greatest motivation.

SECTION – D (Motsüran Ekhao)

7. 'Siamo Tutti Fratelli' yiren shi yichak ji erana. **1**

8. Ronald Ross na Secunderabad lo rasankho jilo elhi sakalam tsükona yiathüng khenzhü motsünga erancho lio ji erana. **2**

9. Ruth na ocho li mosü yano wocho la? Ompvü na kvüta yanchecho la? **1+1=2**

10. Jean Henry Dunant na Sonderegger thüngi ombo chüna kvüto tssoyiv tsükona ezocho la? **3**

11. 'Longa soko' shi tsükona tara eroroa erana. **3**

12. **a.** *Ni kikhemvü Tssirolo jo tsüngrham ratssen eloe küma ni na tsintsi na vanala?*
    (i) Yiren shi jo ocho na phyocho la? **1**
    (ii) Ocho thüngi ezocho la? **1**
    (iii) Ntio tsükona yiren shi phyocho la? **2**
    Mekana
    b. Ronald Ross na nzyu tiza tssoa thüng orhongi na England ni yentsa eyio motsü ji erana. (4)

13. **Oküpoe pi elio shianglo na motsünga (1) ethüngi janlana:** **1x5=5**
    a. Khyingroe nchyua ji na oyan thanpoe loroe khi sosi yia na kvütolyui sosi yitacho sana erana.

    b. Orpah na pyonta eyen esüa ono ntsüpa thüng ono na, Ruth thüngi kvüto ezocho la, osi Ruth na kvüto janlancho la?

c. *"Ata a na ni sükhying ni rephiv meka, ni eramo ka, loroe jo ni na soa vanden khe, Ayio ni na soa van sanati soa vamvü ka."*

    (i)   Yiren shi jo ocho na phyocho la?   (1)

    (ii)   Yiren shilo 'ni' to ephyo ji jo ocho tsükona phyocho la?   (1)

    (iii)   Ota na ongo ji ntio ntio lona nchocho sana eroroa erana.   (3)

Chungiyi

14.   "Ori na likoe tanchüchüi eyatokala" yiren shi yichak jo ntio la?   **1**

15.   Chungiyi 'Janchonzoe' ji jo ocho na erancho la? Chungiyi ji yizen jijo kvüto sana erana.   **1+1=2**

16.   Eng kvümyun rakao phonglan ji jo ntio phonglan ji la? Ntio tsso ji na eng kvümyun rakao phonglan to tsacho la?   **1+2=3**

17.   **a.** Yiren shiang eroroa: **4**

        "Ni rünyucho enhungo zothev kila,

        Yamo hanpong khfüa to e randania.

        Sükhying ratsen mmhayi le to e randania.

        Therolani yanthanshanri mmhayi le to e randania."

          Mekana

    b. **Naga jipo lan shiang tssothimori osi onte na ntio meta fükae khicho sana erana:**   (4x1=4)

        (i) Tsüngon

        (ii) Jungle

        (iii) Chüm

        (iv) Kyong

18.   **Oküpoe pi elio shiang lona motsünga (1) ethüngi erana:**   **1x5=5**

    a. Chungiyi 'Loroe Kangtsücho Merangcho' ji lo loroe ji jo kvülo evan la? Opvü opoang na jo onte tsolo ji kvüto phyotacho la? Khyingroe ji na loroe ji kvüto ezoa merangcho sana erana.   (1+1+3=5)

    b. Yihata etsso ji eman tona yihata ntsso ji epüp to jiang erana.

    c. Chungiyi 'Randan Teriv' yintssen ji erana.

Nchümntan Motsü

19.   Opvü-opo jiang na ntiolyui ngaro ji Zikao to tsacho la osi ombo kvütvü la?   **2**

20.   Zikao nongho eküm ji hungri na erana.   **3**

21. **a.** *"Tsütsailan teriv tae mpato tssolia yantso to ephyo jijo tsentsü sayia."*
    (i)   Yantso jo ntio hungcho la? **1**
    (ii)   Khaphen woathüng yantso ehungo motsü ji eroroa erana. **4**

Mekana

b. Zikao opo mona eyio motsü ji erana. (5)

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2023
SOCIOLOGY

Full marks : 80 Time : 3 hours
General instructions:
i. Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii. The question paper consists of 32 questions.
iii. Marks are indicated against each question.
iv. Answers to questions carrying 1 mark should not exceed one sentence.
v. Answers to questions carrying 2 marks should not exceed 50 words.
vi. Answers to question carrying 4 marks should not exceed 100 words.
vii. Answers to questions carrying 6 marks should not exceed 200 words.
viii. Answers to questions carrying 8 marks should not exceed 300 words
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

Choose the correct answer from the given alternatives in questions 1 to 5.

1. _____ is the belief that one's own religion is true or superior to others. **1**
   (a) Linguism (b) Fundamentalism (c) Casteism (d) Regionalism

2. Which Article of the Constitution states about freedom of conscience and free profession, practice and propagation of religion? **1**
   (a) Article 20 (b) Article 22 (c) Article 25 (d) Article 29

3. What does IADP stand for? **1**
   (a) Intensive Agricultural District Programme
   (b) Integrated Agricultural District Programme
   (c) Intensive Asian Development Programme
   (d) Integrated Agency Development programme.

4. Which is the oldest existing newspaper in India? **1**
   (a)The Times Of India (b)Punjab Kasari
   (c)Ananda Bazar Patrika (d)Bombay Samachar

5. Who founded the Indian Sociological Society? **1**
   (a) R.K Mukherjee (b) Yogendra Singh (c) G.S Ghurye (d) Max Muller

6. Name any two Christian majority States in India. **1**

7. What is the meaning of 'Dalit'? **1**

8. What is Secularisation? **1**

9. What does the abbreviation CBFC stand for? **1**

10. What is Yogendra Singh's approach to the study of Indian Society? **1**

11. What were the two linguistic problems of India after independence? **2**

12. Mention two serious problems of the minorities in India. **2**

13. Give the two reasons for the gradual disuse and disappearance of the Morung. **2**

14. Mention the two impacts of westernisation. **2**

15. Write down two positive aspects of globalization. **2**

16. Mention two negative effects of mass media. **2**

17. What is regionalism? How is it a challenge to national integration? (1+3=4)

18. Briefly discuss some of the measures adopted to empower women. **4**

19. How does mass media lead to development and change in the society? **4**

20. What is social movement? What are the different types of social movement according to M.S.A Rao? (1+3=4)

Answer **any three (3)** from Q.21 to Q.26   **3x6=18**

21. What is fertility? Give reasons for the high birth rate in India in the past. (1+5=6)

22. State the Constitutional Provisions for the Scheduled Caste in India.

23. Discuss about the traditional religion of the Nagas.

24. Explain the social and economic consequences of urbanisation in India. Write two problems of urbanisation. (4+2=6)

25. What is meant by land reforms? Briefly explain the consequences of land reforms. (2+4=6)

26. Explain the structural features of Caste given by Ghurye.

Answer **any three (3)** from Q.27 to Q.32   **3x8=24**

27. Explain the geographical and political factors of unity in India.

28. Highlight the features of rural community.

29. Write an essay on Muslim marriage.

30. What are structural processes and cultural processes of change? Explain the social and economic consequences of Industrialisation in India. (4+4=8)

31. List the aims of Panchayati Raj and explain its structure. (2+6=8)

32. Discuss R.K Mukherjee's view on personality and values.

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2023
BUSINESS STUDIES

Full marks :80   Time : 3 hours

General instructions:
i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii)   The question paper consists of 35 questions.
iii) Marks are indicated against each question.
iv)   General choice has been provided in some questions.
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. Write the meaning of legal environment.   **1**

2. What is meant by work load analysis?   **1**

3. Write the meaning of induction training.   **1**

4. Define motivation.   **1**

5. What is meant by democratic style of leadership?   **1**

6. Name the first step in controlling process.   **1**

7. What is meant by 'Right to be heard' to a consumer?   **1**

8. When is Consumer Day celebrated?   **1**

9. How does planning promote innovative ideas?   **2**

10. Write any two importance of organising.   **2**

11. State any four advantages of functional structure.   **2**

12. Mention any four features of capital structure.   **2**

13. Mention any four functions of distribution channels.   **2**

Answer any eight (8) from the following questions: 8x4=32

14. Explain any four features of management.

15. Explain any four characteristics of co-ordination.

16. Explain any four characteristics of management as a profession.

17. Distinguish between Principles of Management and Principles of Science.

18. Distinguish between Fayol's and Taylor's contributions to the principles of management on any four basis.

19. Discuss any four significance or need of principles of management.

20. Explain any four characteristics of business environment.

21. Distinguish between authority and responsibility.

22. Explain any four importance of delegation.

23. Explain any four ways of measuring actual performance in the process of controlling.

24. Discuss any four importance of Consumer Protection from business point of view.

25. Discuss any four responsibilities of consumers.

Answer any five (5) from the following questions: 5x6=30

26. Explain six limitations of planning.

27. Explain the steps involved in planning process.

28. Distinguish between training and development.

29. Explain any three advantages and disadvantages of internal sources of recruitment.

30. Distinguish between formal and informal communication.

31. Explain any six ways on how to overcome the barriers to effective communication.

32. Explain six factors affecting the requirements of working capital.

33. Explain any six factors affecting the financing decisions.

34. Distinguish between selling and marketing.

35. Explain any six techniques of sales promotion.

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2023

POLITICAL SCIENCE

Full marks : 80   Time : 3 hours

General instructions:

i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*

ii)   *The question paper consists of 34 questions.*

iii) *Marks are indicated against each question.*

iv)   *Answers to questions carrying 1 mark should not exceed one sentence.*

v)   *Answers to questions carrying 2 marks should not exceed 50 words.*

vi)   *Answers to questions carrying 4 marks should not exceed 100 words.*

vii) *Answers to questions carrying 6 marks should not exceed 200 words.*

viii) *Answers to questions carrying 8 marks should not exceed 300 words.*

N.B: Check to ensure that all pages of the question paper are complete as indicated on the top left side.

Choose the correct answer from the given alternatives in questions 1 – 5 (5x1)

1.   A recognised party in the Lok Sabha should have a minimum of
     (a)   fifty members   (b)   fifty three members
     (c)   fifty five members   (d)   fifty seven members

2.   'We have done our duty by creating a frame in which you can work with freedom and impartiality and from now on it is your job to do your best for your country'. Who said this?
     (a)   Sardar Vallabhbhai Patel   (b)   Mahatma Gandhi
     (c)   Jawaharlal Nehru   (d)   B. R. Ambedkar

3.   Which year saw Vladimir Putin being duly elected as the President of Russia for the first time?
     (a)   1990   (b)   1992
     (c)   1998   (d)   2000

4.   European Union's currency is known as
     (a)   Dollar   (b)   Pound
     (c)   Euro   (d)   Lira

5.   The Biological Weapons Convention (BWC) came into force in
     (a)   1972   (b)   1975
     (c)   1982   (d)   1985

6.   Name any two national parties in India.   **1**

7.   When was the electronic voting machines used throughout India?   **1**

8.   Name the present UN Secretary General.   **1**

9.   Write the full form of IPCC.   **1**

10. Who coined the word 'globalisation'?   **1**

11. Name the original state from which the following states were carved out:**1+1=2**
     i)   Chhattisgarh
     ii)   Manipur

12. How can the opposition party best perform its role? Give two reasons.   **2**
13. What was the 39th Constitutional Amendment Act?   **2**
14. Write any two criticisms of pressure groups.   **2**
15. What is terrorism? Mention one method used by terrorists.   **1+1=2**
16. What is meant by free flow of capital under a global economy?   **2**

Answer *any four* from questions 17 - 22   4x4=16

17. Explain any two problems faced in the process of the partition of India.   (4)
18. Explain any two factors responsible for the dominance of the Congress Party in the first three General Elections in India.   (4)
19. State the main objectives of the European Union.   (4)
20. Explain any two causes that led to globalization.   (4)
21. Write the four main consequences of Indo-Pak War of 1971.   (4)
22. Briefly explain any four factors responsible for Pakistan's failure in building a stable democracy.   (4)

Answer *any three* from questions 23 - 28   6x3=18

23. Discuss the role and functions of the NITI Aayog.   (6)
24. When was the Shimla Agreement signed? Mention five main provisions of the agreement.   (1+5=6)
25. Examine any three factors that led to the disintegration of the Soviet Union.   (6)
26. Explain any three consequences and effects of the declaration of Emergency in India in the year 1975.   (6)
27. Mention any six points that should be done to make the United Nations more effective and more relevant.   (6)
28. Discuss any three traditional modes of protection against threat to security.   (6)

Answer *any three* from questions 29 - 34   8x3=24

29. Explain any two factors responsible for the emergence of regional parties and also two increasing role of the regional parties in the national politics.   (4+4=8)
30. Discuss the role of SAARC in bringing about cooperation among the member nations.   (8)
31. What is veto power? Examine the relevance of the United Nations.   (1+7=8)
32. Discuss the main features of the party system in India.   (8)
33. What is meant by interest or pressure groups? Examine the role of pressure groups in India.   (2+6=8)
34. Discuss China's new economic policies in the post Mao's era which has made China an emerging economic power.   (8)

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2023
CHEMISTRY

Total marks : 70   Time : 3 hours

General instructions:

i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii) The question paper consists of 30 questions. All questions are compulsory.
iii) Marks are indicated against each question.
iv) Internal choice has been provided in some questions.

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. Unit of rate constant for second order reaction is   **1**
    (a) S^{-1} (b) $L\,mol^{-1}S^{-1}$ (c) $moll^{-1}S^{-1}$ (d) $L^{-1}mol^{-1}S$.

2. The metal carbon bond in metal carbonyls exhibit   **1**
    (a)   only σ-character   (b)   only π-character
    (c)   both σ and π-character   (d)   ionic character.

3. Alcohol boils at higher temperature than the corresponding hydrocarbon
    due to   **1**
    (a)   intermolecular hydrogen bond
    (b)   intra molecular hydrogen bond
    (c)   van der waal's force of attraction
    (d)   dipole-dipole interaction.

4. In the carbonyl group, the carbon atom undergoes   **1**
    (a)   sp hybridization   (b) sp^2 hybridization
    (c) sp^3 hybridization   (d) sp^3d hybridization.

5. Which of the following is a basic amino acid?   **1**
    (a)   Alanine   (b)   Aspartic acid
    (c)   Glycine   (d)   Lysine.

6. **a.** State Dalton's law of partial pressure.

                              Or   **1**

    b. What are colligative properties?

7. What is molar conductivity?   **1**

8. Name the radioactive element in lanthanoids series.   **1**

9. What are vinylic halides?   **1**

10. **a.**   Write the IUPAC name of $C_2H_5-N-CH_3$
                                                     $|$
                                                   CH_3

     Or   **1**

     b.   Draw the structural formula of Butan-2-amine.

11. **a.**   What is a pseudo first order reaction? Give an example.

     Or   **2**

     b.   Mention two points of differences between order and molecularity
              of a reaction.

12. **a.**   Write the IUPAC name of the coordination compounds:
              i) $[Cr(NH_3)_3(H_2O)_3]Cl_3$
              ii) $[CoCl_2(en)_2]Cl$.

     Or   **2**

     b.   Write two applications of coordination compounds.

13. **a.**   On the basis of valence bond theory, predict the shape and
              hybridization of $[Fe(H_2O)_6]^{3+}$.

     Or   **2**

     b.   Predict the number of unpaired electrons and magnetic behavior in
              $[Ni(CN)_6]^{2-}$

14. **a.**   i) Among the following, which has the highest reactivity towards SN^2
                 reaction: CH_3
                                                                  $|$
                        CH_3CH_2I, CH_3-CH-F, CH_3-C-Cl
                                         $|$ $|$
                                       CH_3 CH_3

              ii) Define Swarts reaction.

     Or   **2**

     b.   Explain the nature of C-X bond of halo alkane.

15. **a.**   Complete the following reaction:
              i) $C_6H_5CONH_2 \xrightarrow{\;LiAlH_4\,/\,ether\;} ?$

              ii) $CH_3NC + 4[H] \xrightarrow{\;LiAlH_4\,/\,Ni\;} ?$

     Or   **2**

     b.   What is carbylamine reaction? Write the reaction.

16. **a.** Write the classification of vitamins.

Or   **2**

b. What is an amylose and amylopectin?

17. **a.** Concentrated nitric acid used in laboratory work is 68% nitric acid by mass in aqueous solution. What should be the molarity of such a sample of the acid if the density of the solution is 1.504 gML^{-1}.

Or   **3**

b. A solution of an organic compound is prepared by dissolving 34.2g in 500g of water. Calculate the molar mass of the compound and freezing point of the solution. Given that K_b for water = 0.52 K Kg mol^{-1}, boiling point of solution = $100.104°C$ and K_f for water = 1.86K Kg mol^{-1}.

18. **a.** What is isotonic solution? Why do gases always tend to be less soluble in liquids as the temperature is raised?

Or   **3**

b. What is solubility? What are the factors affecting the solubility of solid in a liquid?

19. **a.** The electrical resistance of a column of 0.05 mol L^{-1} NaOH solution of diameter 1cm and length 50 cm is $5.55x10^3$ ohm. Calculate its resistivity, conductivity and molar conductivity.   **3**

Or

b. The molar conductivity of 0.025 $molL^{-1}$ methanoic acid is 46.1S cm^2 mol^{-1} . Calculate its degree of dissociation and dissociation constant. Given- λ^o (H^+)=349.6 S cm^2 and λ^o ($HCOO^-$) =54.6S cm^2 mol^{-1}.

20. **a.** The rate of chemical reaction doubles for an increase of 10K in absolute temperature from 298 K. Calculate Ea.(Log 2=0.3010, R=8.314KJ mol^{-1}).

Or   **3**

b. The half life for radioactive decay of ^{14}C is 5730 years. An archeological artifact containing wood had only 80% of the ^{14}C found in living tree. Estimate the age of the sample.

21. **a.** (i) Give reason why Fe^{3+} is more stable than Fe^{2+}?
(ii) Why is silver a transition metal but zinc is not?

Or   **3**

b. What are interstitial compounds? Write four characteristics of interstitial compound.

22. **a.**   (i)   Chlorobenzene is less reactive towards nucleophilic substitution than chloromethane. Why?

          (ii)   What happens when bromobenzene is treated with magnesium in dry ether?

<div align="center">Or</div>   **3**

  b.   (i)   What are freons?

          (ii)   How does halo alkanes undergo dehydrohalogenation? Give example.

23. **a.**   Write the preparation of ether by Williamson's synthesis. Give the chemical reactions.

<div align="center">Or</div>   **3**

  b.   Explain why cleavage of phenyl alkyl ethers with HBr always produces phenol and alkyl bromide and not bromobenzene and alkanols?

24. **a.**   What happens when methanal, ethanal and propanone react with Grignard reagent?

<div align="center">Or</div>   **3**

  b.   (i)   Why are alcohols soluble in water?

          (ii)   Explain why alcohols have higher boiling point than ether?

25. **a.**   Give the conversion of:

          (i)   Propanone to Propene

          (ii)   Propanal to Butanone

<div align="center">Or</div>   **3**

  b.   Explain the structure of carbonyl group in carbon atoms.

26. **a.**   Give a test to distinguish between primary, secondary and tertiary amines by Hinsberg's reagent.

<div align="center">Or</div>   **3**

  b.   (i)   Arrange the following sets in order of their basic strength in aqueous solution: NH_3, $C_6 H_5 NH_2$, $CH_3 NH_2$, $(CH_3)_3N$, $(CH_3)_2NH$.

          (ii)   Why tertiary amines do not undergo acylation?

27. **a.**   Explain the structure of proteins on the basis of their molecular shape.

<div align="center">Or</div>   **3**

  b.   What are enzymes? Explain the mechanism of enzymes.

28. **a.** i)   What is electrochemical series? Write its application.
ii)   The cell in which the following reaction occurs:
$2Fe^{3+}$ (aq)+$2I^-$ (aq) $\rightarrow$ $2Fe^{2+}$ (aq)+ I_2 (s) has E^ocell =0.236V at
298K. Calculate the standard Gibbs energy and the equilibrium
constant of the cell reaction. (R=8.314 $JK^{-1}mol^{-1}$, F=96500C).

                                   Or   5

b. Write the Nernst equation for the cell:
$Mg(s)/Mg^{2+}$ (0.001M)//Cu^{2+} (0.0001M) /Cu(s) where
E^o Mg^{2+}/Mg= -2.37V
E^o Cu^{2+}/Cu=0.34V
Write the reaction occurring at each of the electrode and its net cell
reaction, also determine its cell potential.

29. **a.** (i)   Write the reaction of oxidizing action of $K_2Cr_2O_7$ in acidic
medium with iodide and H_2S.
(ii) Compare the chemistry of actinoids with that of the lanthanoids
with special reference to the following:
(a) electronic configuration
(b) oxidation states
(c) chemical reactivity

                                   Or   5

b. (i)   Why do transition metal form complex compound?
(ii) What is lanthanoid contraction? Explain its consequences.

30. **a.** (i)   What is formalin?
(ii) Write the mechanism of esterification of carboxylic acid.
(iii) Complete the following reaction:

   + NH_2 $\rightarrow$? $\xrightarrow{\Delta}$? $\xrightarrow{strong\ /\ heating}$?
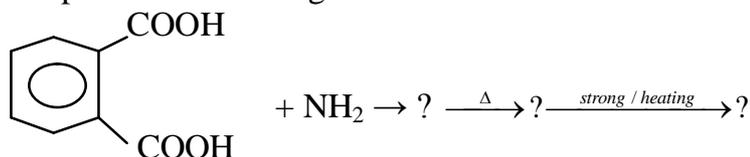
                                   Or   5

b. Explain the following reactions:
(i)   Cannizaro reaction.
(ii) Rosenmund reduction.
(iii) What happens when acetone is treated with hydroxylamine?

                         ****

2023
FUNDAMENTALS OF BUSINESS MATHEMATICS

Full marks : 80   Time : 3 hours

General instructions:
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *The question paper consists of 32 questions.*
iii) *Marks are indicated against each question.*
iv) *General choice has been provided in some questions.*
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. Define power set.   **1**

2. Write the definition of inverse of matrix.   **1**

3. Write inverse of the matrix $\begin{bmatrix} 4 & 1 \\ 3 & 1 \end{bmatrix}$ **1**

4. What is compound partnership?   **1**

5. Define objective function.   **1**

   Answer **any nine (9)** from the following questions: **9x4=36**

6. Obtain the domain and range of the following relation
$$R = \left\{ \left(x+1, \frac{1}{x-1} \right) : 2 \leq x \leq 4, x \in N \right\}$$

7. If $f(x) = \frac{2x+1}{2x^2+1}$ and $\phi(x) = 2f(2x)$, then show that $\phi(2.5) = \frac{22}{51}$

8. Show that using properties of determinant.
$$\begin{vmatrix} x+y & z & z-x \\ y+z & x & x-y \\ z+x & y & y-z \end{vmatrix} = x^3 + y^3 + z^3 - 3xyz$$

9. Prove that the matrix A given by $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$

   satisfies the relation $A^2 - A(a+d) + (ad-bc)I = 0$
   where I is a unit matrix of order two.

10. A company is considering which of the three methods of production it should use in producing three goods A, B and C. The amount of each goods produced by each method is shown in the matrix.

$$\begin{array}{cccc} & A & B & C \\ Method\ I & \begin{bmatrix} 4 & 8 & 2 \\ Method\ II & 5 & 7 & 1 \\ Method\ III & 5 & 3 & 9 \end{bmatrix} \end{array}$$

   The vector (10 4 6) represents the profit per unit for the goods A,B and C in that order. Using matrix multiplication, find which method maximizes total profit.

11. At what time the amount will be due if the true discount on ` 854 be ` 54 at 4.5% per annum?

12. Find the rate percent per annum at which the true discount (TD) on a bill legally due in 10 months time will be exactly the same as the banker discount (BD) at $11\frac{17}{53}$% per annum.

13. Calculate the date on which the total amount of the following bills of exchange may be paid by single cheque without any loss to any of the parties.

Date of the Bill of Exchange	Amount(`)	Period of the bill
3rd Jan. 1981	200	3 months
15th Feb.1981	250	4 months
21st March 1981	300	2 months
12th April 1981	500	1 month
14th August 1981	400	2 months

14. The average due date of four bills was 10th June. Three of the bills were payable as follows:
   ` 418 on 29th April
   ` 551 on 3rd June
   ` 1,007 on 8th July
   The 4th bill was for ` 323. On what date was it due?

15. Y invest equal sums in 5% debenture and 6% preference shares of a company and obtains equal income. If 5% debentures are issued at a discount of $2\frac{1}{2}\%$, find the issue price of the preference shares. Ignore income tax, stamp charge etc.

16. How much stock are to be sold to realise ` 3,91,600 from 5% stock at 2% discount, brokerage being $\frac{1}{10}\%$?

17. A trader mixes two qualities of wheat in the ratio 2:3, the cost price being ` 16 and ` 12 per kg respectively. At what rate should he sell to make a profit of 12%?

18. In what ratio should a trader mix three qualities of tea costing ` 60 per kg, ` 90 per kg and ` 120 per kg so as to enable him to gain 5% by selling it at ` 105 per kg?

   Answer **any three (3)** from the following questions: **3x5=15**

19. An amount of ` 10,000 is put into three investments at the rate of 10, 12 and 15 percent per annum. The combined income is ` 1,310 and the combined income of the first and the second investment is ` 190 short of the income from the third. Find the investment in each, using determinant method (Cramer's Rule)

20. The total sales in thousand of rupees of a firm selling two products *x* and *y* is given by the relationship
      $S = a + bx + cy$
      Data for the first three months are given as under:

Months	Total Sales(`)	*x*	*y*
1	12	2	3
2	13	6	2
3	15	5	3

   Using determinant method, determine the sales in the next month when he sells 4 units of *x* and 5 units of *y*.

21. Out of two stocks A and B at 120 and 110, the former paying 4% dividend and the latter $3\frac{1}{2}\%$, a person purchases ` 80,000 of the less profitable stock initially and then sells it to invest the proceeds in the other, paying $\frac{1}{8}\%$

brokerage on the stock sold. What is his gain in the return by the change in investments?

22. Having a certain sum to invest, a man puts half of it in 5% stock at 105 and the other half in 4% stock at par, the price in each case being inclusive of brokerage. If he had invested $\frac{2}{3}$ of the first and rest in the second, his annual income would have been ` 2.50 more. How much did he invest?

23. Two grades A and B of oil are mixed in the proportion 2:5. After 20% of this has been sold from stock a sufficient quantity of A is mixed with the remainder to raise the proportion to 4:7. If the stock is now 1100 gallons, what was the quantity of the original mixture and how much of grade A was added to make the new mixture?

24. A trader sells three grades of tea A, B and C. Grade A is sold at ` 72 per kg and earns a profit of 20%, grade B sold at ` 84 per kg earns a profit of 5%, grade C is sold at ` 108 per kg and suffers a loss of 10%. In what proportion three kinds of teas must be mixed so that by selling the mixture at ` 99 per kg, he can earn a profit of 10%?

     Answer **any four (4)** from following questions: **4x6=24**

25. In a survey concerning drinking habits of 200 students, it was found that 90 take tea, 85 take milk, 70 take coffee, 50 take tea and milk, 20 take milk and coffee, 30 take coffee and tea and 15 take all the three. Find the number of students who
     i) do not take any drink
     ii) take only tea
     iii) take exactly two drinks (using algebra of sets).

26. In a city, three daily newspapers X, Y and Z are published, 65% of the people of the city read X, 54% read Y, 45% read Z, 38% read X and Y, 32% read Y and Z, 28 % read X and Z, 12% do not read any of the newspapers. If 10,00,000 persons live in the city, find the number of persons who read all the three newspapers.

27. Show that the matrix $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ satisfies the equation $A^2 - 4A - 5I_3 = 0$
     and hence find A^{-1}

28.   A firm produces P_1 and P_2 passing through two machines M_1 and M_2 before completion M_1 can produce either 12 units of P_1 or 18 units of P_2 per hour. M_2 can produce 10 units of either product per hour, find daily production of P_1 and P_2 if time available is 10 hours of machine M_1 and 15 hours of machine M_2 per day using matrix inversion.

29.   A and B entered into partnership with ` 60,000 and ` 90,000 respectively. It is agreed that A will draw a salary of ` 800 per month for supervising the business and B is to receive a commission of $5\frac{1}{2}$% on turnover as sales manager and the remaining profits will be shared in the ratio of their capitals. In 2015, the sales amount to ` 2,50,000 and the net profits before charging salary and commission was ` 50,000. Find the percentages that their aggregate income bear to their capitals.

30.   A, B and C start a business, A putting in ` 2,000 and they agree to share the profits pro-rata: A withdraws his capital after 3months, B after 5months and C after 6months. At the end of the year, A got as his share $\frac{1}{3}^{rd}$ of the total profits and B received $\frac{1}{4}^{th}$ and C the remaining balance. Find the contribution of B and C in the business.

31.   A carpenter has 200 and 100 square feets of plywood and sunmica respectively. He produces products A and B. Product A requires 8 and 1 square feets and product B requires 1 and 2 square feets of plywood and sunmica respectively. If the profit on one piece of product A is ` 30 and on one piece of product B is ` 20, how many pieces of product A and B should he make to maximize his profit?

32.   A company produces two types of presentation goods A and B that requires gold and silver. Each unit of type A requires 3 grams of silver and 1 gram of gold while that B requires 1 gram of silver and 2 grams of gold. The company can produce 9 grams of silver and 8 grams of gold. Each unit of type A brings a profit of ` 40 and that of type B ` 50, determine the number of units of each type that should be produced to maximize the profit. Indicate the feasible region on a graph paper. Solve the problem graphically.

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2023
EDUCATION

Full marks : 80   Time : 3 hours

General instructions:
i.   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii. *The question paper consists of 32 questions.*
iii. *Marks are indicated against each question.*
iv. *Answers to questions carrying 1 mark should not exceed one sentence.*
v.   *Answers to questions carrying 2 marks should not exceed 50 words.*
vi. *Answers to questions carrying 4 marks should not exceed 100 words.*
vii. *Answers to questions carrying 6 marks should not exceed 200 words.*
viii. *Answers to questions carrying 8 marks should not exceed 300 words.*

N.B: Check that all pages of the question paper are complete as indicated on the top left side

Choose the correct answer from the given alternativesin questions 1 to 5.

1. Which of the following is the classification of changes proposed by Mrs. Hurlock? **1**
    (a) Changes in size   (b) Changes in proportion
    (c) Only (a)   (d) Both a and b

2. The best vision area in the normal eye is: **1**
    (a) Retina   (b) Yellow spot
    (c) Choroid   (d) Optic Nerve.

3. _____ is the inactive state of learnt activity.   **1**
    (a) Registration   (b) Retention
    (c) Recall   (d) Recognition

4. IQ between the range of 90-109 is :   **1**
    (a) Average   (b) Low average
    (c) Borderline defective   (d) Mentally defective

5. Physically handicapped children are :-   **1**
    (a) The crippled child   (b) The blind and near blind
    (c) The delicate children   (d) All of the above

6. Name the three stages of human development.   **1**

7. Define Mental health.   **1**

8. Who discovered classical conditioning theory?   **1**

9. Mention the 3R's of habit formation.   **1**

10. Define Personality.   **1**

11. What is social Heredity?   **2**

12. Mention any function of :   **2**
    a) Cerebellum
    b) Medulla oblongata

13. Give any two signs of poor mental health.   **2**

14. What is Law of Rediness?   **2**

15. How can it be justified that 'learning involves experience'?   **2**

16. State any two uses of Intellegence tests.   **2**

17. State any four general notions of Infancy.   **4**

18. Write the mechanism of heredity.   **4**

19. Mention any four educational implications of individual differences **4**

20. What is Mean? Calculate Arithmetic Mean from the data showing marks of
    students in a class in a psychological test: 40,50,55,58,78.   **2+2=4**

         Answer any **three (3)** from Q.21 to Q.26.   **3x6=18**

21. Discuss the relationship between Education and Psychology.   **6**

22. Differentiate between Growth and Development.   **6**

23. Discuss the preventive measure for maladjustment.   **6**

24. What is Operant Conditioning? Discuss its mechanism   **2+4=6**

25. Explain the nature of habits on the basis of its characteristics. **6**

26. Differentiate between Introverts and Extroverts.   **6**

         Answer any **three (3)** from Q.27 to Q.32.   **3x8=24**

27. Explain in brief any eight branches of psychology.   **8**

28. Discuss the various characteristics of adolescence stage.   **8**

29. Discuss the different types of environments that influences an individual. **8**

30. Define Interest. State any seven characteristics of interest.   **1+7=8**

31. Define Forgetting. What are the different factors influencing forgetting? **2+6=8**

32. What are the types of Intelligence classified by Gardner?   **8**

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2023
PSYCHOLOGY

Full marks: 80   Time : 3 hours

General instructions:
i. *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii. *The question paper consists of 32 questions.*
iii. *Marks are indicated against each question.*
iv. *Answers to questions carrying 1 mark should not exceed one sentence.*
v. *Answers to questions carrying 2 marks should not exceed 50 words.*
vi. *Answers to questions carrying 4 marks should not exceed 100 words.*
vii. *Answers to questions carrying 6 marks should not exceed 200 words.*
viii. *Answers to questions carrying 8 marks should not exceed 300 words.*
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1. What is level I according to Arthur Jesen?   **1**

2. What are values?   **1**

3. Who developed the Rorschsch inkblot test?   **1**

4. What is social identity?   **1**

5. Give the full form of ODD.   **1**

6. What are phobias?   **1**

7. What is occupational therapy?   **1**

8. What is empathy?   **1**

9. What is attitude?   **1**

10. What is impression formation?   **1**

11. Explain one facet of intelligence in the Indian tradition.   **2**

12. List any two characteristics of personality.   **2**

13. Mention the two classifications of psychological disorder.   **2**

14. Write any two ethical standards of psycho-therapy.   **2**

15. Briefly explain any one factor that influence attitude formation.   **2**

16. What are the A-B-C components of attitude?   **2**

17. Explain one trait approach theory.   **4**

18. Briefly explain the General Adaptation Syndrome (GAS).   **4**

19. What are the four significant features of attitudes? Explain any one.   **2+2=4**

20. Explain any two factors facilitating group formation.   **2+2=4**

Answer any **three (3)** from Q.21 to Q.26.   **3x6=18**

21. Explain the theory of Multiple Intelligence.   **6**

22. Explain any two methods of behavioural analysis.   **3+3=6**

23. What are the various effects of stress on psychological functioning
and health?   **6**

24. What are the steps involved in the formulation of a clients problem?   **6**

25. Explain any three sources of prejudice.   **6**

26. Elaborate on the stages of group formation.   **6**

Answer any **three (3)** from Q.27 to Q.32.   **3x8=24**

27. What is emotional intelligence? List any four characteristics of emotionally
intelligent person.   **4+4=8**

28. Explain any two theories of the post- Freudian approach.   **4+4=8**

29. Explain any four stress-management techniques.   **2×4=8**

30. Explain neurodevelopmental disorders.   **8**

31. What is humanistic-existential therapy? Explain any two humanistic-existential
therapies.   **2+6=8**

32. Describe the influence of group on individual behaviour.   **8**

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2023

ECONOMICS

Total marks : 80   Time : 3 hours

General instructions:

i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.

ii)   The question paper consists of 32 questions.

iii)   Marks are indicated against each question.

iv)   Answers to questions carrying 1 mark should not exceed one sentence.

v)   Answers to questions carrying 2 marks should not exceed 50 words.

vi)   Answers to questions carrying 4 marks should not exceed 80 words.

vii) Answers to questions carrying 6 marks should not exceed 120 words.

viii) Answers to questions carrying 8 marks should not exceed 200 words.

ix)   Alternate question for the visually impaired students are provided in question 31.
       Only the visually impaired students have to attempt the alternate question.

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. Define macroeconomics.   **1**

2. Define value of output.   **1**

3. What is the other name of depreciation?   **1**

4. Define money.   **1**

5. What is liquidity trap?   **1**

6. Give any two examples of direct taxes.   **1**

7. Name any two goods exported by India.   **1**

8. What are tariffs?   **1**

9. What is dependency ratio?   **1**

10. What is deforestation?   **1**

11. What are flow variables or stock variables?   **2**

12. What are the four phases of a business cycle?   **2**

13. Distinguish between National Income at current prices and National Income at constant prices.   **2**

14. What is the full form of NDC? Who is the head of NDC?   **1+1=2**

15. Differentiate between life expectancy rate and infant mortality rate.   **2**

Answer any **three** from questions 16 – 19.   **3x4=12**

16. Explain any two components of final expenditure on GDP.

17. Explain the assumptions taken for the determination of equilibrium output in the short run.

18. Explain any two functions of commercial banks.

19. Mention any two merits and two demerits of deficit budget.

Answer any **two** from questions 20 – 22   **2x4=8**

20. Explain any two challenges faced by the Indian economy on the eve of Independence.

21. Explain any two importance of agriculture in the Indian economy.

22. Explain any two objectives of economic planning.

Answer any **two** from questions 23 – 26.   **2x6=12**

23. Explain the circular flow of income in a two sector economy.

24. Explain the steps involved in estimating national income by product/ value added method.

25. Explain the quantitative measures of expansionary monetary policy tools.

26. Explain any three components of capital receipts.

Answer any **two** from questions 27 – 29.   **2x6=12**

27. Explain any three merits and three demerits of liberalisation.

28. Explain the reforms introduced in the financial sector in India under the NEP, 1991.

29. Make a comparative study of Foreign Direct Investment (FDI) in India and China.

30. Compare Purchasing Power Parity (PPP) between India and China.

31. **a.** Explain saving function. Show diagrammatically the derivation of saving curve from consumption curve. **2+6=8**
    Or
    b. Explain how is equilibrium achieved through AD = AS approach with the help of a diagram. (8)

    Alternate question for the visually impaired students:

    a. Explain any four precautions required to be taken while measuring national income through income method.
    Or **8**
    b. Explain any two components of Aggregate Demand.

32. **a.** Explain any four steps taken by the Government for improvement in the market system in India.
    Or **8**
    b. Explain any four challenges in the formation of human capital in India.

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2023
BIOLOGY

Total marks : 70   Time : 3 hours

General instructions:
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory. Marks are indicated against each question.*
iii) *The question paper consists of two parts – Part **A** and Part **B**.*
 Each part contain 14 questions.
iv) *Internal choice has been provided in some questions.*
v) *Write the answers of Part A and Part B in separate answer books.*
 Marks shall not be awarded if the answers of both the Parts are written in one book nor marks awarded if answers of Part A are written in the answer book of Part B and vice-versa.

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

PART - A

1. Which of the following is an example of free nuclear endosperm?   **1**
 (a) Coconut water   (b) Castor
 (c) Sugarcane juice   (d) Groundnut

2. The removal of anthers from the flower bud before the anther dehisces by using a pair of forceps is called   **1**
 (a) bagging   (b) emasculation
 (c) hybridisation   (d) apomixis

3. The length of DNA in Escherichia coli has   **1**
 (a) 5386 bp   (b) 48502 bp
 (c) 4.6×10^6 bp   (d) 3.3×10^9 bp

4. Pyramid of number in a grassland ecosystem is   **1**
 (a) upright   (b) spindle shaped
 (c) inverted   (d) none of these

5. What trend is observed in respect of species diversity when we move from the equator to the pole?   **1**
 (a) Diversity decreases
 (b) Diversity increases
 (c) Diversity remains the same
 (d) Diversity first decreases and then increases

6. **a.** Differentiate between template strand and coding strand.

                              Or   **2**

    b. Who gave the experimental proof on 'Transforming Principle'? Name the bacteria used in the experiment.

7. **a.** If the sequence of one strand of DNA is 5′-AGTCGGACTTGA-3′, what will be the sequence of complementary strand in 3′→5′ direction?

                              Or   **2**

    b. Differentiate between exons and introns.

8. **a.** What is downstream processing?

                              Or   **2**

    b. Mention two methods to introduce alien DNA into host cells.

9. **a.** Draw a well labelled diagram of a typical anatropous ovule.

                              Or   **3**

    b. Draw a well labelled diagram of L.S of a flower showing growth of pollen tube.

10. **a.** What is triple fusion? Where does it take place? Name the nuclei involved in triple fusion.

                              Or   **3**

    b. Write the three characteristic features of wind-pollinated flowers.

11. **a.** Distinguish between primary and secondary productivity. Give the expression for productivity.

                              Or   **3**

    b. Write a brief note on the three categories for conservation of biodiversity.

12. **a.** Explain the experimental proof of semi-conservative DNA replication given by Meselson and Stahl.

                              Or   **5**

    b. Discuss the salient features of double helix structure of DNA.

13. **a.** Explain in detail the role of restriction enzymes in recombinant DNA technology with diagram.

                              Or   **5**

    b. What is PCR? Explain the amplification of gene using PCR.

14. **a.** Give a detailed account of energy flow in an ecosystem.

                              Or   **5**

    b. Define biodiversity. Explain the causes of loss of biodiversity.

PART - B

1. Leydig cells secretes   1
   (a) Estrogens   (b) Androgens
   (c) Progesterone   (d) Corticosterone

2. Down's syndrome is caused due to   1
   (a) XXY   (b) XO
   (c) Trisomy 21   (d) XXXY

3. Bacillus thuringiensis is used for controlling _____ pest.   1
   (a) bacterial   (b) nematodes
   (c) fungal   (d) insect

4. GEAC stands for   1
   (a) Gene Engineering Approval Committee
   (b) Genetic Engineering Approval Commission
   (c) Gene Engineering Assay Committee
   (d) Genetic Engineering Approval Committee

5. When one organism benefits and the other is harmed, then it is known as 1
   (a) Commensalism   (b) Parasitism
   (c) Competition   (d) Mutualism

6. **a**. Why is colostrum considered to be essential for the newborn infant?
                          Or   2
   b. Differentiate between tubectomy and vasectomy.

7. **a.** What is pleiotropy? Give one example.
                          Or   2
   b. Write two paleontological evidences that support evolution.

8. **a.** List any two important characteristics of a population and explain briefly.
                          Or   2
   b. What is the relationship between predator and prey?

9. **a.** What is Thalassemia? How is Thalassemia different from Sickle-cell
       anaemia?
                          Or   3
   b. Give a diagrammatic representation of Miller's experiment.

10. **a.** What is a pathogen? Name the parasites that causes
       (i) Ascariasis   (ii) Elephantiasis
                          Or   3
   b. What is BOD? Explain the biological treatment of sewage.

11. **a.** State the role of C peptide in human insulin.

<div align="center">**Or**</div>   **3**

b. What is biopiracy? How are the industrialized nations exploiting the bio-resources and traditional knowledge of the developing nations?

12. **a.** Explain the process of spermatogenesis with a well labelled diagram.

<div align="center">**Or**</div>   **5**

b. What is the criteria of an ideal contraceptive? Briefly explain any two contraceptive methods.

13. **a.** State Mendel's Laws of Inheritance and explain it with suitable crosses.

<div align="center">**Or**</div>   **5**

b. Write a note on human evolution.

14. **a.** What causes AIDS? Explain the mode of action of AIDS virus.

<div align="center">**Or**</div>   **5**

b. Explain the role of microbes in energy generation.

2023
COMPUTER SCIENCE

Total marks : 70   Time : 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii)   *The question paper consists of 29 questions. All questions are compulsory.*
iii) *Marks are indicated against each question.*
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1. What are identifiers?   **1**

2. For a string strl, what is strl [3:]?   **1**

3. What is relative path?   **1**

4. What is matplotlib?   **1**

5. What is a data structure?   **1**

6. Define stack.   **1**

7. What are the ways IP4V can be expressed?   **1**

8. What is carrier sensing?   **1**

9. What are the types of messages in HTTP?   **1**

10. What is the purpose of SELECT statement in MySQL?   **1**

11. What is Plagiarism?   **1**

12. What is cyber stalking?   **1**

13. What will be the output of the given program?   **2**

```
def  fun3 (a) :
    print ( ' In fun' )
    print ( 'a=' , a)
    a=a+3
    print ( 'a=' ,a)
a=5
print ( 'a=', a)
fun3 (a)
print ( 'Back' )
print ( 'a=' , a)
```

14. Give two reasons why file handling is required.   **2**

15. What is the difference between Iterative and recursive algorithm?   **2**

16. Differentiate between primary and secondary data structures. Give examples. **2**

17. Mention two disadvantages of peer to peer networks.   **2**

18. Differentiate between Software as a Service (SaaS) and Platform as a Service (PaaS).   **2**

19. Explain the use of UPDATE statement in MySQL. Write the syntax of the UPDATE statement.   **2**

20. What is Django? How can one find if Django has been installed?   **2**

21. Write the steps to create a database in Python using the SQL connector. **2**

22. What is Intellectual Property?   **2**

23. Differentiate between E-mail Phishing and Spear Phishing.   **2**

24. **Answer any three from the following questions (a) to (f).**   **3 × 4 = 12**
    (a) Mention any four advantages of using a function.

    (b) What is recursion? Write a Python program to calculate the factorial of a number using recursion.

    (c) What is linspace function? Explain the parameters used in linspace function.

    (d) Explain any four aggregate functions of numpy module.

    (e) What are the characteristics of an algorithm?

    (f) Define the following terms:
       (i) Algorithm   (ii) Big O : O()   (iii) Omega : Ω()   (iv) Theta : Θ()

25. **a.** Write an algorithm to convert an infix expression to postfix.
                               Or   **4**
     b. Convert $a + b * (c - d)/f$ to postfix and show each steps of conversion.

26. **Answer any two from the following questions (a) to (d).**   **2 × 4 = 8**

    (a) Describe the different types of cloud computing.

    (b) How do one find a class of an address given in the binary notations?

    (c) Define the following:
       i) Signal   ii) Baseband signal
       iii) Carrier signal   iv) Modulated signal

(d) Explain the following layers of the OSI protocol suite.
    i) Data link layer   ii) Network layer
    iii) Transport layer   iv) Session layer

27. State the syntax of the following terms: **4**
    i) GROUP BY clause   ii) Having clause
    iii) min()   iv) max()

28. **a.** Mention some important characteristics of Django.

                                Or   **4**

    b. Mention some advantages of Django.

29. **a.** State the cases where in the IT Act is not applicable.

                                Or   **4**

    b. Mention the scenario that may lead to Plagiarism.

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2023
INFORMATICS PRACTICES

Total marks : 70   Time : 3 hours

General instructions:
i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.
ii)   The question paper consists of 25 questions. All questions are compulsory.
iii)   Marks are indicated against each question.
iv)   Internal and general choice has been provided in some questions.
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1. **Choose the correct answer from the given alternatives:**   **5x1 = 5**
    (a) A _____ is used to form a star topology.
         i) Router   ii) Switch/hub
         ii) Modem   iv) Gateway

    (b) Which of the following is not an open source OS?
         i) Windows 7   ii) Unbuntu
         iii) Linux   iv) Open Solaris

    (c) Identify the method that can be used to make a Frame visible.
         i) show()   ii) setEnabled()
         iii) setVisible()   iv) None of these

    (d) Which SQL statement is used to see the structure of a table?
         i) EXTRACT   ii) JOIN
         iii) DESCRIBE   iv) SELECT

    (e) In RDBMS, the tables related to each other using primary key and foreign key are called _____ and _____ table respectively.
         i) Parent, Child   ii) Primary, Secondary
         iii) Child, Parent   iv) Mother, Child

2. Name the entity who lays down the guidelines and policies for distributing open source software.   **1**

3. What is the significance of System.exit(o) method?   **1**

4. Name the event handler method to handle click event of a push button.   **1**

5. What is the use of abstract keyword in Java?   **1**

6. Which keyword is used to call base class constructor in Java?   **1**

7.   What happens when Auto commit is set on?   **1**

8.   What kind of integrity is maintained by SET and ENUM operators?   **1**

9.   How are 'Cartesian product' and 'relations' associated with each other? **1**

10.   Write one advantage and one disadvantage of using Optical Fibre Cable. **2**

11.   What controls would one suggest for the following types of input?   **2**
        (i) Multiple choice from a set.
        (ii) Typed text which should remain hidden.

12.   Compare and contrast XML and HTML.   **2**

13.   What are the different attributes of FORM element?   **2**

14.   What are the various components of database server URL?   **2**

15.   Write a short note on SQL.   **2**

16.   Name a function of MySQL to do the following: **2**
        (i) used to give the first occurrence of a string2 in string1.
        (ii) used to remove trailing and leading spaces from a string.

17.   Define referential integrity.   **2**

18.   What is the significance of default constraint?   **2**

19.   Describe fully functional dependency with the help of an example.   **2**

20.   What is transitive dependency?   **2**

21.   **Answer any three from the following questions (a) to (f).**   **3 × 4 = 12**

        (a) Discuss any four methods of JFrame class.

        (b) What is a control statement? What are the different control statements
            in Java?

        (c) What is inheritance? What are the different types of inheritances?
            Discuss with the help of suitable examples.

        (d) What are the various formatting elements of HTML? Explain with
            example.

        (e) How does Java application connect to a database? Explain the
            different connectors available to connect MySQL with different
            front-end technologies.

(f) Explain the various classes needed for database programming in Java.

22. **Answer any two from the following questions (a) to (d).** **2×4=8**

(a) What are the different elements of a table?

(b) Discuss in brief the various products of MySQL.

(c) What is a transaction? What are the different properties of a transaction? Discuss with the help of examples.

(d) What is meant by functional dependency? Discuss with the help of examples.

23. **a.** Compare and contrast between OSI reference model and TCP/IP reference model.

<div align="center">

Or **5**

</div>

b. What is free software? How do they differ from open source software?

24. **a.** Define join in MySQL. Explain all the different types of join.

<div align="center">

Or **5**

</div>

b. What is First Normal Form (1NF)? What are the various anomalies when a table is said to be in 1NF? How can they be overcomed?

25. **a.** What are the functionalities of Mind Reader Application? What are the different aspects of Mind Reader Game Application?

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Or **5**

</div>

b. What are the functional and non-functional requirements of Message Board Application?

<div align="center">

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2023
PHILOSOPHY

Full marks: 80   Time: 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii)   *The question paper consists of 30 questions.*
iii)   *Marks are indicated against each question.*
          Answer to questions carrying1 mark should not exceed one sentence.
          Answer to questions carrying 2 marks should not exceed 50 words.
          Answer to questions carrying 4 marks should not exceed 100 words.
          Answer to questions carrying 6 marks should not exceed 200 words.
          Answer to questions carrying 8 marks should not exceed 300 words.
N.B: Check that all pages are complete as indicated on the top left side.

Choose the correct answer from the given option in Questions 1-10.

1.   The rationalist philosophers are   **1**
     (a)   Plato, Berkeley, Descartes   (b) Plato, Descartes, Spinoza
     (c)   Descartes, Spinoza, Leibnitz   (d) Locke, Berkeley, Aristotle

2   The theory of innate ideas was refuted by   **1**
     (a)   Leibnitz   (b) Descartes
     (c)   John Locke   (d) David Hume

3.   The second critique of Kant addresses the problem of   **1**
     (a)   knowledge   (b) moral judgement
     (c)   aesthetic judgement   (d) critical judgement

4.   A posteriori knowledge are knowledge   **1**
     (a)   independent of experience   (b) independent of reason
     (c)   dependent on reason   (d) dependent on experience

5.   Solipsism means   **1**
     (a)   only me and my ideas are real   (b) I think, therefore I exist
     (c)   to be is to be perceived   (d) I exist, therefore I think

6.   In which of the following place did Buddha attain enlightenment?   **1**
     (a)   Lumbini   (b) Bodhgaya
     (c)   Kapilivastu   (d) Khusinagara

7. What is the root cause of suffering according to Buddha?   **1**
    (a) birth   (b) thirst for object
    (c) ignorance   (d) consciousness

8. Prama means   **1**
    (a) valid knowledge   (b) immediate knowledge
    (c) inference   (d) invalid knowledge

9. Thomas Aquinas second way to prove the existence of God is   **1**
    (a) argument from motion   (b) argument from degrees
    (c) contingent and necessary objects (d) causation of existence

10. The book 'Evidence' is written by   **1**
    (a) St. Anselm   (b) St Thomas Aquinas
    (c) William Paley   (d) Plato

11 Define philosophy.   **2**

12 What is empiricism?   **2**

13 What is the Categorical Imperative of Kant?   **2**

14. Define social justice.   **2**

15. Name the astika schools of Indian philosophy.   **2**

16. What is Anekantavada?   **2**

17. What is the origin of philosophy? Name the scope of
    philosophy.   **1+3=4**

18. Distinguish between primary and secondary qualities.   **4**

19. Name the eight-fold paths of Buddhism.   **4**

20. What is Naya? Name the seven Nayas.   **½+3½=4**

    Answer **any three** from questions 21 - 25

21. Explain the nature of social philosophy.   **6**

22. Explain the concept of social justice as given by John Rawls.   **6**

23. Describe the main teachings of Bhagavad Gita.   **6**

24. What are the twelve links of causal wheel of Dependent Origination? **6**

25. Name the four Pramanas according to Nyaya. Explain Sabda (testimony)
     as a source of knowledge according to Nyaya.   2+4=**6**

     Answer **any three** from questions 26 - 30

26. Distinguish between (**any two**)   4x2=**8**
     a. Pro-life and Pro-choice view of abortion.
     b. Reproductive and therapeutic cloning.
     c. Emile Durkeim's and Christian view of suicide.

27. Discuss the common features of Indian philosophy.   **8**

28. What is Padartha? Explain any three Padarthas of the Vaisesika. 2+6=**8**

29. What is Guna in Samkhya philosophy? Explain the three constituents
     of the Gunas.   2+6=**8**

30. Explain the idea of God in Christianity and Islam.   4+4=**8**

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2023
FINANCIAL MARKETS MANAGEMENT

Marks: 70   Time: 3 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii)   *The question paper consists of 27 questions.*
iii)   *Marks are indicated against each question.*
iv)   *Internal choice and general options has been provided in 6 marks questions.*
N.B: Check that all pages of the question paper is complete as indicated on the top left side.

1.	Name the two segments of securities market.	**1**
2.	Who is a sub broker?	**1**
3.	Define turnover ratio.	**1**
4.	Give the full form of IPF.	**1**
5.	What is security sigma?	**1**
6.	What is contingent claim?	**1**
7.	Define unsystematic risk.	**1**
8.	When do arbitrage opportunities arise?	**1**
9.	Write any two benefits of a trading member at NSE.	**2**
10.	State any two special features of outstanding orders.	**2**
11.	Name the two types of settlement.	**2**
12.	State the two types of capital gains.	**2**
13.	Write any two limitations of forward contracts.	**2**
14.	Mention four points a trading member should ensure on a contract note.	**4**
15.	Explain any four features of password.	**4**

16.   Write any four special features of order status.   **4**

17.   Explain four types of order book in the NEAT system.   **4**

18.   Write any four functions of a clearing bank.   **4**

19.   Mention the prohibition of certain dealings in securities.   **4**

20.   Explain the types of derivative contracts.   **4**

            Answer any **three** from question No. 21 to 26   **3 x 6 = 18**

21.   Explain any six reforms in Indian securities market.

22.   Write any six consequences of expulsion of a trading member.

23.   Explain the regular lot matching.

24.   Discuss any six features of user order value limit.

25.   Explain any six salient features of direct payout to investor.

26.   Explain the problems pertaining to securities settlement.

27.   **a.**   What is forward contract? Explain the salient features of forward
                contracts.   **1+5=6**
                                    Or
       b.   Explain any six futures terminologies.   (6)

                        ****

2023
MATHEMATICS

Full marks: 80   Time: 3 hours

General instructions:
 i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
 ii) *The question paper consists of 18 questions. All questions are compulsory.*
 iii) *Marks are indicated against each question.*
 iv) *Internal and general choice has been provided in some questions.*
 v)   *Use of simple calculators (non-scientific and non-programmable) only is permitted.*

N.B: Check that all pages of the question paper is complete as indicated on the top left side.

Section – A

1. **Choose the correct answer from the given alternatives:**

   (a) Let $f : \mathrm{R} \to \mathrm{R}$ be defined as $f(x) = 3x$, then   **1**
       (i) f is one-one onto   (ii) f is many-one onto
       (iii) f is one-one but not onto   (iv) f is neither one-one nor onto

   (b) The principal value of $\cot^{-1}\left(\dfrac{-1}{\sqrt{3}}\right)$ is   **1**

       (i) $\dfrac{-\pi}{3}$ (ii) $\dfrac{\pi}{3}$ (iii) $\dfrac{-2\pi}{3}$ (iv) $\dfrac{2\pi}{3}$

   (c) If A, B are symmetric matrices of same order, then AB – BA is a   **1**
       (i) Skew symmetric matrix   (ii) Symmetric matrix
       (iii) Zero matrix   (iv) Identity matrix

   (d) Let A be a square matrix of order 3×3. Then $|kA|$ is equal to   **1**

       (i) $k|A|$ (ii) $k^2|A|$ (iii) $k^3|A|$ (iv) $3k|A|$

   (e) If $\sqrt{x} + \sqrt{y} = \sqrt{a}$, then $\dfrac{dy}{dx}$ is equal to   **1**

       (i) $-\sqrt{\dfrac{y}{x}}$ (ii) $-\sqrt{\dfrac{x}{y}}$ (iii) $\sqrt{\dfrac{y}{x}}$ (iv) $\sqrt{\dfrac{x}{y}}$

(f) $\int e^x \sec x (1 + \tan x) dx$ is equal to   **1**

    (i) $e^x \cos x + C$ (ii) $e^x \sec x + C$

    (iii) $e^x \sin x + C$ (iv) $e^x \tan x + C$

(g) The order and degree of the differential equation $\left(\dfrac{ds}{dt}\right)^4 + 3s\left(\dfrac{d^2 s}{dt^2}\right) = 0$ respectively

    are: **1**

    (i) 4 and 2   (ii) 2 and 1   (iii) 1 and 4   (iv) 1 and 2

(h) The probability of obtaining an even prime number on each die, when a pair of
    dice is rolled is   **1**

    (i) $\dfrac{1}{26}$ (ii) $\dfrac{1}{36}$ (iii) $\dfrac{1}{46}$ (iv) $\dfrac{1}{56}$

Section – B

2. Prove: $3\sin^{-1} x = \sin^{-1}(3x - 4x^3), \ x \in \left[-\dfrac{1}{2}, \dfrac{1}{2}\right].$ **2**

3. Find a matrix X such that 2A + B + X = 0, where $A = \begin{bmatrix} -1 & 2 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 3 & -2 \\ 1 & 5 \end{bmatrix}.$ **2**

4. Find the equation of line joining (1, 2) and (3, 6) using determinants.   **2**

5. Find $\dfrac{dy}{dx}$, if $x = a(\theta - \sin\theta), \ y = a(1 + \cos\theta).$ **2**

6. Find the intervals in which the function $f(x) = 2x^2 - 3x$ is
   (i) increasing (ii) decreasing.   **2**

7. Evaluate $\int \dfrac{\cos x}{\sqrt{1 + \sin x}} dx.$ **2**

8. Find the general solution of the differential equation $\dfrac{dy}{dx} = \dfrac{1 + y^2}{1 + x^2}.$ **2**

9. The probability of solving specific problem independently by A and B are $\dfrac{1}{2}$ and
$\dfrac{1}{3}$ respectively. If both try to solve the problem independently, find the
probability that the problem is solved.   **2**

Section – C

10. An organization conducted a bike race under two different categories- boys and girls. Totally there were 250 participants, out of which three from category 1 and two from category 2 were selected for the final race. John forms two sets B and G with these participants for his college project. Let $B = \{b_1, b_2, b_3\}$ and $G = \{g_1, g_2\}$ where B and G represents the set of boys and girls respectively, who were selected for the final race.

Answer the following using the above information. **4**

a). John wishes to form all the relations possible from B to G. How many such relations are possible?

(i) 2^6 (ii) 2^5

(iii) 0   (iv) 2^3

b). John wants to know among those relations, how many functions can be formed from B to G?

(i) 2^2 (ii) 2^3

(iii) 2^{12} (iv) 3^2

c). Let $R : B \to B$ be defined by R = {(x, y): x & y are participants of same sex}. Then R is

(i) Equivalence   (ii) Reflexive and symmetric but not transitive

(iii) Reflexive only   (iv) Reflexive and transitive but not symmetric

d). Let $R : B \to G$ be defined by R = {(b_1, g_1), (b_2, g_2), (b_3, g_1)}, then R is

(i) one to one   (ii) onto

(iii) one to one & onto   (iv) neither one to one nor onto

11. **Answer any three from the following questions (a) to (e).**   **$3 \times 4 = 12$**

(a) Differentiate $x^{\sin x} + (\sin x)^{\cos x}$ with respect to x.

(b) Evaluate $\int \dfrac{\cos x}{(1 - \sin x)(2 - \sin x)} dx$.

(c) By using the properties of definite integrals, evaluate $\displaystyle\int_{0}^{\pi/4} \log(1 + \tan x)dx$.

(d) Solve the differential equation $(x^2 - y^2)dx + 2xy\,dy = 0$.

(e) Find the particular solution of the differential equation $\dfrac{dy}{dx} + 2y\tan x = \sin x$ given that $y = 0$ when $x = \dfrac{\pi}{3}$.

12. **Answer any two from the following questions (a) to (c).**   **2 × 4 = 8**

    (a) Show that the points A, B and C with position vectors, $\vec{a} = 3\hat{i} - 4\hat{j} - 4\hat{k}$,
$\vec{b} = 2\hat{i} - \hat{j} + \hat{k}$ and $\vec{c} = \hat{i} - 3\hat{j} - 5\hat{k}$, respectively form the vertices of a right angled triangle.

    (b) Find the area of a triangle having the points A(1, 1, 1), B(1, 2, 3) and C(2, 3, 1) as its vertices.

    (c) Find the equation of the line in vector and cartesian form that passes through the point with position vector $2\hat{i} - \hat{j} + 4\hat{k}$ and is in the direction $\hat{i} + 2\hat{j} - \hat{k}$.

13. **a.** Solve graphically: Maximise Z = 3x +2y subject to
     $x + 2y \le 10, 3x + y \le 15; x, y \ge 0$.

<div align="center">

Or   **4**

</div>

    b. Solve graphically: Minimise Z = x +2y subject to
     $2x + y \ge 3, x + 2y \ge 6; x, y \ge 0$.

14. **a.** A manufacturer has three machine operators A, B and C. The first operator A produces 1% defective items, where as the other two operators B and C produce 5% and 7% defective items respectively. A is on the job for 50% of the time, B is on the job for 30% of the time and C is on the job for 20% of the time. A defective item is produced, what is the probability that it was produced by A?

<div align="center">

Or   **4**

</div>

    b. In answering a question on a multiple choice test, a student either knows the answer or guesses. Let $\dfrac{3}{4}$ be the probability that he knows the answer and $\dfrac{1}{4}$ be the probability that he guesses. Assuming that a student guesses at the answer will be correct with probability $\dfrac{1}{4}$. What is the probability that the student knows the answer given that he answered it correctly?

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Section – D

</div>

15. **a.** Solve the system of linear equations by using matrix method.
        $2x + 3y + 3z = 5$
        $x - 2y + z = -4$
        $3x - y - 2z = 3$

<div align="center">

Or   **6**

</div>

b. For the matrix $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & -1 & 3 \end{bmatrix}$.

Show that $A^3 - 6A^2 + 5A + 11I = 0$ and hence find A^{-1}.

16. **a.** Show that the right circular cylinder of given surface and maximum volume is such that its height is equal to the diameter of the base.

<div align="center">**Or**</div>   **6**

b. Show that semi-vertical angle of right circular cone of given surface area and maximum volume is $\sin^{-1}\left(\dfrac{1}{3}\right)$.

17. **a.** Find the area of the region bounded by the ellipse $\dfrac{x^2}{4} + \dfrac{y^2}{9} = 1$.

<div align="center">**Or**</div>   **6**

b. Find the area enclosed by the circle $x^2 + y^2 = a^2$.

18. **a.** Find the shortest distance between the lines whose vector equations are
$\vec{r} = (1-t)\hat{i} + (t-2)\hat{j} + (3-2t)\hat{k}$ and
$\vec{r} = (s+1)\hat{i} + (2s-1)\hat{j} - (2s+1)\hat{k}$

<div align="center">**Or**</div>   **6**

b. Find the shortest distance between the lines whose vector equations are
$\vec{r} = (\hat{i} + 2\hat{j} + 3\hat{k}) + \lambda(\hat{i} - 3\hat{j} + 2\hat{k})$ and
$\vec{r} = (4\hat{i} + 5\hat{j} + 6\hat{k}) + \mu(2\hat{i} + 3\hat{j} + \hat{k})$

<div align="center">**✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱✱**</div>

2023
Information Technology ES (Vocational)

Total marks : 50   Time : 2 hours

General instructions :
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii)   *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
iii)   *The question paper consists of 23 questions.*
iv)   *Marks allocated to every question are indicated against it.*
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1.   **Choose the correct answer from the given alternatives:**   **10x1=10**

i.   Which of the following is the most important skill in communication?
   (a)   Speaking   (b)   Writing
   (c)   Reading   (d)   Listening

ii.   Which of the following can be a barrier in communication?
   (a)   Being attentive   (b)   Responding
   (c)   Noisy environment   (d)   Maintaining eye contact with speaker

iii.   Which of the following is not a component of stress?
   (a)   Upset   (b)   Annoyed
   (c)   Hopeless   (d)   Happy

iv.   Individuals who love interacting with people around and are generally talkative are called
   (a)   Extroverts   (b)   Introverts
   (c)   Reserved   (d)   Antisocial

v.   What is the short cut key to underline text in a spreadsheet?
   (a)   Ctrl+b   (b)   Ctrl+i
   (c)   Ctrl+i   (d)   Ctrl+u

vi.   Which menu option should be click to insert shapes and images?
   (a)   Edit   (b)   Insert
   (c)   Format   (d)   Tools

vii.   A company that is in its first stage of its operation is called
   (a)   Start up   (b)   Capital firm
   (c)   Manufacturing business   (d)   Traditional business

viii.   The ability to make profitable and quick decisions is called
   (a)   Efficient   (b)   Initiative
   (c)   Perseverance   (d)   Decisiveness

ix.   CNG stands for?
   (a)   Complex natural gas   (b)   Compressed natural gas
   (c)   Complete natural gas   (d)   Compound natural gas

x.   Which of the following is an example of eco-friendly product?
   (a)   Banana leaf plates   (b)   Plastic plates
   (c)   Old mobile phones   (d)   Plastic items

Answer the following questions in one word or one sentence:

2.   Define partnership.   **1**
3.   Write the full form of CRM.   **1**
4.   State one benefit of time management.   **1**
5.   Who is a procurement manager?   **1**
6.   What is a bid?   .   **1**
7.   What are customer support services?   **1**
8.   Write the meaning of the word 'posteori'.   **1**
9.   List any two sources of learning.   **1**

Answer the following questions in 20-50 words:

10. Differentiate between Corporation and Limited Liability Company.   **2**
11. Differentiate between enterprise and enterprising.   **2**
12. Write the flow chart for framework for planning.   **2**
13. What is Request for Proposal (RFP) or Request for Interest (RFI)?   **2**
14. Differentiate between quality and assurance.   **2**
15. List any two factors responsible for growth of Indian BPO industry.   **2**
16. Write any two points of learning according to Ambrose et al.   **2**
17. What is tacit knowledge? Give an example.   **1+1=2**

Answer *any four* from the following questions in 60-100 words:

18. List any four factors affecting ERP in Business Process Reengineering. **4**
19. Explain any four ways to improve time management skills.   **4**
20. What is a payroll? Write any six components of payroll.   **1+3=4**
21. Write any four criteria's for Request for Proposal (RFP).   .   **4**
22. List any six characteristics of learning.   **4**
23. Explain any four factors affecting learning.   **4**

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2023
Tourism & Hospitality (Vocational)

Total marks : 50   Time : 2 hours

General instructions :
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
iii) *The question paper consists of 23 questions.*
iv) *Marks allocated to every question are indicated against it.*

*N.B: **Check to ensure that all pages of the question paper are complete as indicated on the top left side.***

1.   **Choose the correct answer from the given alternatives:**   **10x1=10**

i.   'Treat others the way you want to be treated' is to do with being
     (a)   timely   (b)   polite
     (c)   flexible   (d)   understanding

ii. A senior citizen is a person who is
     (a)   40 years and above   (b)   50 to 60 years
     (b)   60 years and above   (d)   70 to 80 years

iii. It refers to limiting the presence of hazards to prevent infection and contamination in food production chain.
     (a)   Food adulteration   (b)   Food quality evaluation
     (c)   Food quality control   (d)   Food safety

iv. It is one of the biggest causes of injuries on the job and it may be ground for dismissal.
     (a)   Horseplay   (b)   Cuts
     (c)   Burns   (d)   Strains

v.   Always give criticism in
     (a)   private   (b)   public
     (c)   both (a) & (b)   (d)   good faith

vi. Which of the following is the backbone of travel industry?
     (a)   Customer feedback   (b)   Front Office
     (c)   Customer care   (d)   Food and beverage

vii. Which of the following is not a stage of active listening?
     (a)   Receiving   (b)   Non-responding
     (c)   Responding   (d)   Evaluating

viii. What makes a person happier and helps maintain relationships as well as mental and physical health?
     (a)   Confidence   (b)   Motivation
     (c)   Self-management   (d)   Positive attitude

ix. It is an arrangement of cells in a horizontal manner.
     (a)   Column   (b)   Cell
     (c)   Row   (d)   Worksheet

x) The ability to act in a situation before others do is
  (a)   initiative   (b)   interpersonal skills
  (c)   perseverance   (d)   decisiveness

Answer the following questions in one word or one sentence:

2.   What is meant by gender sensitivity?   **1**
3.   What does FSSAI stand for?   **1**
4.   List any two pillars of success for zero accident vision.   **1**
5.   What are the top two most spoken languages in the world?   **1**
6.   State any two key communication skills.   **1**
7.   What is personality?   **1**
8.   What is spreadsheet?   **1**
9.   Write one characteristic of entrepreneurship.   **1**

Answer the following questions in 20-50 words:

10. Write any two etiquettes and manners to be followed while talking to guest. **2**
11. State any two objectives of the Maintenance and Welfare of Parents and Senior Citizens Act, 2007. **2**
12. What is sexual harassment? Give one example.   **1+1=2**
13. What is personal hygiene? List any two types of personal hygiene. **1+1=2**
14. Write any two actions that should be taken immediately inside the building when an earthquake strikes. **2**
15. Mention any two ways to create a good first impression of business. **2**
16. List any two keys to good customer service.   **2**
17. Write any two benefits of green jobs.   **2**

Answer *any four* from the following questions in 60-100 words:

18. Briefly explain four principles given by Myrna Hoover which can be utilised by office employees to show proper etiquette. **4**
19. Examine the importance of business telephone etiquette in tourism industry. **4**
20. Name any two key regulations of FSSAI and explain them.   **1+3=4**
21. Explain any four ways to ensure food safety concerns in F & B services. **4**
22. Explain any four tips that will help you make best use of the suggestions you received for improving your work. **4**
23. What is customer feedback? List six golden rules of customer feedback. **1+3=4**

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2023

Retail (Vocational)

Total marks : 50   Time : 2 hours

General instructions :
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
iii) *The question paper consists of 23 questions.*
iv) *Marks allocated to every question are indicated against it.*

N.B: Check to ensure that all pages of the question paper are complete as indicated on the top left side.

1.   **Choose the correct answer from the given alternatives:**   **10x1=10**

i.   Which one of the following is a service tool to identify customers' problem?
  a)   Data collection   b)   Discussion Forums
  c)   Information Centers   d)   Corporate bodies

ii.   How do we prepare a customer service plan?
  a)   By being friendly
  b)   By knowing the product or service
  c)   By developing customer service strategy
  d)   By responding promptly

iii.   In understanding customer needs, don't make assumptions mean, to be
  a)   clear   b)   precise
  c)   understanding   d)   a good listener

iv.   Amazon Go concept stores that do not have associates or check lanes are known as
  a)   no service   b)   self service
  c)   full service   d)   customer service

v.   Which of the following is **not** a factor in developing a good work habit?
  a)   cultivate self discipline   b)   stay balanced
  c)   develop professionalism   d)   common goal

vi.   Which of the following decodes the message in communication channel?
  a)   Sender   b)   Receiver
  c)   Feedback   d)   Messenger

vii.   It is an electronic document which has rows and columns.
  a)   Spreadsheet   b)   Charts
  c)   Graphs   d)   Formula

viii.   Which menu option is used to insert shapes and images?
  a)   Format   b)   Tools
  c)   Insert   d)   Edit

ix.   Individuals, who focus on developing solutions that benefit the society are called
  a)   service entrepreneur   b)   social entrepreneur
  c)   business entrepreneur   d)   professional entrepreneur

   x. Reusing scrap material aims to
     a)   promote development   b)   control greenhouse gas emissions
     c)   ensure quality control   d)   minimize waste and pollution

Answer the following questions in one word or one sentence:

2.   What is customer problem?   **1**

3.   Why is it important to meet customer's expectations?   **1**

4.   What is customer retention?   **1**

5.   State any two strategies to improve customer service standards.   **1**

6.   What are marketing activities?   **1**

7.   Write any two parts of communication.   **1**

8.   What is meant by decisiveness?   **1**

9.   List any two green jobs in solar and wind energy sector.   **1**

Answer the following questions in 20-50 words:

10.   Mention any two benefits of negotiation in retail business.   **2**

11.   Briefly explain any two ways to provide great customer service.   **2**

12.   List four ways to increase trust with the customers.   **2**

13.   What is CRM? Write any two benefits of CRM.   **1+1=2**

14.   Describe any two ways to improve customer service.   **2**

15.   Explain any two major factors that influence consumer behavior. **2**

16.   State any two responsibilities of employees in a workplace.   **2**

17.   Write any two ways to maintain positive attitude.   **2**

Answer *any four* from the following questions in 60-100 words:

18.   Explain any four steps to solve customer problems.   **4**

19.   Explain any four methods of dealing with customer service problems. **4**

20.   Explain any four ways to collect customer information.   **4**

21.   Describe four appropriate ways to respond to the customers.   **4**

22.   Explain the four methods to obtain feedback from the customers.   **4**

23.   What is retail career? Explain in brief any three career prospects in retail
      organisation.   **1+3=4**

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2023

Healthcare (Vocational)

Total marks : 50   Time : 2 hours

General instructions :

i)   Approximately 15 minutes is allotted to read the question paper and revise the answers.

ii) All questions are compulsory except Q. nos.18 to 23 where general option is given.

iii) The question paper consists of 23 questions.

iv) Marks allocated to every question are indicated against it.

N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1.   **Choose the correct answer from the given alternatives:**   **10x1=10**

i.   The ability to control one's emotions, thoughts and behaviour is called
   (a)   Self regulation   (b)   Self-management
   (c)   Self-awareness   (d)   Self-discipline

ii. Sutures are removed after
   (a)   3 days   (b)   5 days
   (c)   7 days   (d)   10 days

iii. Sharp wastes are to be disposed off in
   (a)   White bag   (b)   Yellow bag
   (c)   Red bag   (d)   Blue bag

iv. Pre-disaster measures to prevent disasters are called
   (a)   Disaster management   (b)   Risk management
   (c)   Preparedness   (d)   Drill

v.   The arrangement of cells in a vertical manner is known as
   (a)   Worksheet   (b)   Workbook
   (c)   Row   (d)   Column

vi. The normal beats per minute for a healthy adult ranges from
   (a)   60-70 bpm   (b)   60-80 bpm
   (c)   60-90 bpm   (d)   60-100 bpm

vii. ENT stands for
   (a)   Eye, Nose and Throat   (b)   Eye, Neck and Throat
   (c)   Ear, Nose and Throat   (d)   Ear, Nose and Tongue

viii. The most common type of extinguisher used for Class C fire is
   (a)   Halogenated agent   (b)   Carbon dioxide
   (c)   Wet potassium acetate   (d)   Powdered graphite

ix. In older people, as the body ages, the bones lose calcium, gets weak, thin and
   (a)   Brittle   (b)   Durable
   (c)   Flexible   (d)   Strong

x.   The process by which a health care provider investigates the body of a patient for signs of disease is called
   (a)   Internal examination   (b)   External examination
   (c)   Medical examination   (d)   Physical examination

Answer the following questions in one word or one sentence:

2.　Define biomedical waste.　　　　　　　　　　　　　　　**1**
3.　Write the full form of ERT.　　　　　　　　　　　　　　**1**
4.　What is the age span of a toddler?　　　　　　　　　　　**1**
5.　What is green job?　　　　　　　　　　　　　　　　　　**1**
6.　Name the two types of smoke detectors.　　　　　　　　　**1**
7.　What is goal setting?　　　　　　　　　　　　　　　　　**1**
8.　What is patient documentation?　　　　　　　　　　　　　**1**
9.　Why is feedback important in communication?　　　　　　　**1**

Answer the following questions in 20-50 words:

10.　Name the two methods of documentation.　　.　　　　　**2**
11.　Differentiate between infectious waste and cytotoxic wastes.　**2**
12.　List any two physical changes that occur in the body during old age.　**2**
13.　Write any two functions of Hospital Waste Management Committee.　**2**
14.　List any two common medical equipments used in the operation theatre.　**2**
15.　List any two legal needs of an elderly.　　　　　　　　　**2**
16.　Mention any two social problems caused due to stress.　　　**2**
17.　Write any two advantages of presentation softwares.　　　**2**

Answer *any four* from the following questions in 60-100 words:

18.　Write four characteristics of an entrepreneurship.　　　　**4**
19.　List any four points followed in maintenance of records in hospitals.　**4**
20.　Write any four preparatory steps before sending the patient to the operation theatre.　**4**
21.　Briefly explain any four types of disposal of biomedical waste.　**4**
22.　List any four examples of a typical adolescent patient.　　**4**
23.　Write any four preventive measures of fire.　　　　　　　**4**

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2023
Beauty & Wellness (Vocational)

Total marks : 50   Time : 2 hours
General instructions :
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
iii) *The question paper consists of 23 questions.*
iv) *Marks allocated to every question are indicated against it.*

N.B: *Check to ensure that all pages of the question paper are complete as indicated on the top left side.*

1.   **Choose the correct answer from the given alternatives:**   **10x1=10**
i.   It is the first area where a client gets the first impression of the salon.
     a)   Front desk   b)   Retail area
     c)   Storage area   d)   Service area
ii. Which of the following describes the shade of the skin?
     a)   Colour   b)   Makeup
     c)   Glands   d)   Undertone
iii. The electrical facial treatment is also called as
     a)   galvanic treatment   b)   cosmetic electrotherapy
     c)   facial steaming   d)   lymphatic drainage
iv. Dry skin is due to lack of
     a)   heat   b)   cold
     c)   lubrication   d)   wind
v.   Which of the following is **not** a parameter to describe an individual's personality?
     a)   Oneness   b)   Consciousness
     c)   Neuroticism   d)   Self confidence
vi. It is an arrangement of cells in a horizontal manner.
     a)   Column   b)   Row
     c)   Worksheet   d)   Workbook
vii. The ability to continue to do something even when it is difficult is known as
     a)   decisiveness   b)   interpersonal skills
     c)   perseverance   d)   initiative
viii. Which treatment is used to remove dead skin cells of a thicker skin?
     a)   Ultrasonic exfoliation   b)   Facial steaming
     c)   Galvanic treatment   d)   Electric brush
ix. It is very important in maintaining a good salon image and also for health and safety.
     a)   Clean environment   b)   Grooming
     c)   Good housekeeping   d)   Healthy habits

x.   Who provides the details of the salon service at the reception area?
   a)   Salon Manager   b)   Receptionist
   c)   Salon owner   d)   Beauty Therapist

Answer the following questions in one word or one sentence:

2.   How does electrical current help in skin therapy?   **1**
3.   Write one thing that should be ensured after using the staff room.   **1**
4.   Write any two parts of communication that help us to understand others.   **1**
5.   Name any two types of cosmetic electrotherapy.   **1**
6.   State any two primary colours.   **1**
7.   What are loyalty cards?   **1**
8.   Who is a salon receptionist?   **1**
9.   Name any two common types of blush.   **1**

Answer the following questions in 20-50 words:

10.   Write any two benefits of green jobs in protecting the environment.   **2**
11.   Mention two ways to handle contraindication to any treatment.   **2**
12.   State any two recording medium that a salon receptionist should use.   **2**
13.   Define interpersonal skills.   **2**
14.   List four contraindications of ultrasonic exfoliation.   **2**
15.   What is alcoholism? State any one ill effect of alcoholism.   **1+1=2**
16.   Write any two benefits of galvanic electro facial treatment.   **2**
17.   Describe two ways in which you can make positive thinking a habit in life.   **2**

Answer *any four* from the following questions in 60-100 words:

18.   Briefly explain any four types of skin.   **4**

19.   Describe four ways to provide a caring environment to the client.   **4**

20.   Briefly explain how the following reception areas in a salon are to
       be maintained: **2+2=4**
       i)   Storage area
       ii)   Lounge or waiting area

21.   Describe the process of lymphatic drainage facial machine treatment.   **4**

22.   What is electric brush used for in beauty therapy? Write three benefits
       of using electric brush.   **1+3=4**

23.   Explain any four types of eyeliner.   **4**

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2023
Electronics & Hardware (Vocational)

Total marks : 50   Time : 2 hours

General instructions :
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
iii) *The question paper consists of 23 questions.*
iv) *Marks allocated to every question are indicated against it.*

N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1. **Choose the correct answer from the given alternatives:**   **10x1=10**

i. Which of the following meter is used to measure the amount of energy consumed by an electrical appliance in a house?
   (a)   Voltmeter   (b)   Ammeter
   (c)   Barometer   (d)   Energy meter

ii. What is the current carrying capacity of copper bus bar?
   (a)   2000 A   (b)   3000 A
   (c)   4000 A   (d)   5000 A

iii. A load centre is also called
   (a)   Control unit   (b)   Processing unit
   (c)   Service unit   (d)   Control panel

iv. Which of the following is the front part of a panel board?
   (a)   Access door   (b)   Enclosures
   (c)   Dead front   (d)   Trim

v. Handle extension is used with
   (a)   Busbar   (b)   Busway
   (c)   MCB trip   (d)   Switchgear

vi. The process of converting AC power into DC power is called
   (a)   Transformer   (b)   Variable frequency driver
   (c)   Voltage   (d)   Rectification

vii. The slip ring is used in
   (a)   AC machine   (b)   DC machine
   (c)   Transformer   (d)   Stator

viii. Which of the following is known as the brain of PLC?
   (a)   Input   (b)   Output
   (c)   Processor   (d)   Memory

ix. Which of the following is not a parameter to describe an individual's personality?
   (a)   Self-confidence   (b)   Openness
   (c)   Neuroticism   (d)   Agreeableness

x. Which of the following function is used to perform addition in a spreadsheet?
   (a)   Format option   (b)   Charts
   (c)   Formula   (d)   Graphs

Answer the following questions in one word or one sentence:

2. What is the working principle of a fuse? **1**
3. What is a brush? **1**
4. What is human machine interface (HMI)? **1**
5. What is fusible disconnect switch? **1**
6. Write two types of testing in a control panel. **1**
7. What is silicon control rectifier? **1**
8. State any two components of spreadsheet. **1**
9. Mention one characteristic of entrepreneurship. **1**

Answer the following questions in 20-50 words:

10. Differentiate between a feeder busway and a plug in busway. **2**
11. Write any two steps to test an energy meter. **2**
12. Write any two first aid measures that should be taken in case of an electricity shock. **2**
13. What is a fuse? State any two applications of a fuse. **2**
14. What is a load centre? Mention any two components of a load centre. **2**
15. What are horizontal and vertical buses used for? **2**
16. What is a centre tapped transformer ? **2**
17. List any two benefits of green jobs. **2**

Answer *any four* from the following questions in 60-100 words:

18. Write any four needs of adjustable speed drives in an electrical system. **4**
19. Explain the working principle of centre tapped full wave rectifier. **4**
20. Explain the working principle of direct online starter (DOL). **4**
21. What is a fire extinguisher? State any three steps on how to operate a fire extinguisher in case of a fire emergency. **1+3=4**
22. Write any four differences between earthing and grounding. **4**
23. Explain four stages of active listening. **4**

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2023
Agriculture (Vocational)

Total marks : 50   Time : 2 hours

General instructions :
i) *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory except Q. nos.18 to 23 where general option is given.*
iii) *The question paper consists of 23 questions.*
iv) *Marks allocated to every question are indicated against it.*

N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1. **Choose the correct answer from the given alternatives:**   **10x1=10**

i. Which of the following is not a stage of active listening?
    (a) Receiving   (b) Understanding
    (c) Non-responding   (d) Evaluating

ii. Self management is also known as
    (a) Self-discipline   (b) Self-control
    (c) Self-awareness   (d) Self-defense

iii. The short cut key for print command in spreadsheet is
    (a) Control+P   (b) Control+V
    (c) Control+Q   (d) Control+X

iv. A company that is in its first stage of operation is called
    (a) Start up   (b) Franchise
    (c) Social enterprise   (d) Enterprise

v. Organic gardening and farming is a component of
    (a) Yellow jobs   (b) Blue jobs
    (c) Red jobs   (d) Green jobs

vi. Which of the following is the main constituent of chlorophyll that maintains a balance in the process of photosynthesis?
    (a) Phosphorous   (b) Calcium
    (c) Nitrogen   (d) Potassium

vii. Which of the following is a common disease symptom of roses?
    (a) Black spot   (b) Aster yellow
    (c) Basal rot   (d) Cold injury

viii. Korean velvet grass or carpet grass is also known as
    (a) Zoysia matrella   (b) Zoysia tenuifolia
    (c) Cynodon dactylon   (d) Paspilum Vaginatum

ix. A row of trees grown on both sides of the roads is called
    (a) Lawn   (b) Avenue
    (c) Topiary   (d) Rockery

x. Common jasmine is used for which purpose?
    (a) Foliage   (b) Fillers
    (c) Cut stems   (d) Fragrance

Answer the following questions in one word or one sentence:

2.   What are hedge plants?   **1**
3.   Name any two common insect pests of ornamental plants.   **1**
4.   What is topiary?   **1**
5.   What is water garden?   **1**
6.   What are fertilizers?   **1**
7.   Write any two features of the bottle brush tree.   **1**
8.   Mention any two grass varieties in India.   **1**
9.   What is spreadsheet?   **1**

Answer the following questions in 20-50 words:

10.   What is communication? Write any two parts of communication.   **2**
11.   State any two ways to manage stress.   **2**
12.   Write any two needs for using biofertilizers.   **1+1=2**
13.   Differentiate between sprinkler and drip irrigation.   **2**
14.   Write any two ways to care and maintain a lawn.   **2**
15.   Write the two major kinds of damage to growing crops by insects. **2**
16.   Mention any two aims of landscaping.   **2**
17.   Write any two uses of climbers and creepers.   **2**

Answer *any four* from the following questions in 60-100 words:

18.   What is vermicomposting? Write three advantages of vermicomposting.**1+3=4**
19.   Explain briefly any four types of manure application.   **4**
20.   Explain any two common cultural operations from the following.
       (i) Harrowing (ii) Mulching (iii) Stalking   **2+2=4**
21.   Explain any four methods of lawn making.   **4**
22.   What is indoor gardening? Write any three advantages of indoor gardening.
                                                                   1+3=4
23.   What is garden edging? Write three advantages of edging.   **1+3=4**

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2023
Automotive (Vocational)

Total marks: 50   Time: 2 hours

General instructions:
i)   *Approximately 15 minutes is allotted to read the question paper and revise the answers.*
ii) *All questions are compulsory except Q. nos. 18 to 23 where general option is given.*
iii) *The question paper consists of 23 questions.*
iv) *Marks allocated to every question are indicated against it.*
N.B: Check that all pages of the question paper are complete as indicated on the top left side.

1.   **Choose the correct answer from the given alternatives:**   **10x1=10**

i.   The manuals provided by the manufacturers which cover the servicing, maintenance and repair of their products is called
     (a)   service manual   (b)   owner's manual
     (c)   maintenance manual   (d)   insurance manual

ii. Push rod are made of
     (a)   alloy steel   (b)   carbon manganese steel
     (c)   carbon steel   (d)   austenitic steels

iii. Typically clutch overhauls are required every
     (a)   80000-90000 kms   (b)   75000-80000 kms
     (c)   70000-80000 kms   (d)   60000-70000 kms

iv. The study of the forces at work on a moving car is called
     (a)   road isolation   (b)   road holding
     (c)   vehicle dynamics   (d)   aero dynamics

v.   Which of the following is **not** a component of air conditioning system?
     (a)   Compressors   (b)   Dryer
     (c)   Expansion valve   (d)   Battery

vi. Which of the following is a key communication skill?
     (a)   Speaking   (b)   Feedback
     (c)   Channel   (d)   Eye contact

vii. According to Helen Keller, optimism is the faith that leads to achievement. Nothing can be done without hope and
     (a)   dreams   (b)   confidence
     (c)   strengths   (d)   enjoyment

viii. What is the short cut key to underline text in a spreadsheet?
     (b)   Ctrl+b   (b)   Ctrl+i
     (d)   Ctrl+l   (d)   Ctrl+u

ix. It provides energy for ignition.
     (a)   Ballast Resistor   (b)   Capacitor
     (c)   Battery   (d)   Distributor

x.   The Government of India launched the National Action Plan on Climate Change (NAPCC) on
       (a)   June 2007   (b)   June 2008
       (c)   June 2009   (d)   June 2010

Answer the following questions in one word or one sentence:

2.   Why is regular servicing of automobile necessary?   **1**
3.   Write the full form of MPFI.   **1**
4.   Write one purpose of wheel alignment.   **1**
5.   Write one use of hazard light.   **1**
6.   State any two factors that affect active listening.   **1**
7.   Write two ways to manage stress in our daily life.   **1**
8.   List any two main types of data.   **1**
9.   What is green job?   **1**

Answer the following questions in 20-50 words:

10.   Write any two benefits of wearing seat belt.   **2**
11.   Briefly explain any two functions of a piston ring.   **2**
12.   What is engine valve used for? Name any two components of valve train.
                                                                           1+1=2
13.   Draw the universal joint and label any two part of it.   **1+1=2**
14.   What is a steering linkage? What is the purpose of steering linkage? **1+1=2**
15.   What are the two wear characteristics of tyre due to excessive camber?   **2**
16.   Write any two disadvantages of battery ignition system.   **2**
17.   What is interpersonal skill? State any two characteristics of interpersonal skill.   **1+1=2**

Answer *any four* from the following questions in 60-100 words:

18.   What is an injector nozzle? Write any three causes of faulty injection nozzle.   **1+3=4**
19.   What is bearing? Briefly explain any three types of sliding bearings used in internal combustion engines.   **1+3=4**
20.   Name the different types of automatic power transmission system and explain any one of it.   **2+2=4**
21.   Explain any two different technologies used for automation of transmission system.   **4**
22.   Give four reasons to justify why a suspension system is needed in an automobile.   **4**
23.   Explain any four different components of air condition.   **4**

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